THE ELEMENTARY SCHOOL JOURNAL

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Educational News and Editorial Comment

TRAINING OF ELEMENTARY-SCHOOL PRINCIPALS

On April 11 and 12 a conference of elementary-school principals was held at the State Teachers College, Buffalo, New York. This conference was the outgrowth of a movement which has been in process of development for a year. The State Teachers College at Buffalo, with the aid of the New York State Department of Education, has been working on a program of pre-service and in-service training for elementary-school principals. At the 1929 meeting of the New York State Council of Village and City Superintendents a report was adopted proposing standards for a course which would be adequate for the training of principals. The Buffalo State Teachers College secured the services of Worth McClure, who has been active in the Department of Elementary School Principals of the National Education Association, and courses for principals were inaugurated. J. Cayce Morrison, assistant state commissioner in charge of elementary education, has taken an active part in the undertaking and has given it the support of the State Department of Education.

The program of the conference which was held early in April was made up of papers on the following topics: "The Principals' Part in

Boston University
School of Education
Library

Redirecting the Work of Our Elementary Schools," "The Principal as a Leader of Parents," "The Principal and Our Community Life," "Safeguarding the Essentials in Supervision," "Some Factors of Good Teaching Procedure in the Primary Grades," "Improving the Teaching of Reading," "Objective Diagnosis in Visiting the Classroom," "Discovering the Individual Pupil," "Studying the Individual Pupil," "Adapting the School to Individual Differences," and "The Principal's Professional Vitality."

MUSEUMS AND VISUAL INSTRUCTION

The appeal which can be made to a pupil's mind through his eyes has frequently been emphasized of late by the advocates of the use of motion pictures in the schools. The possibility of conveying information through visual means other than pictures has sometimes been overlooked. The following account of a museum which gives instruction of a vivid kind through models arranged in historical sequence is quoted from the *New York Sun*.

The rapt attention with which hundreds of school children view the models portraying the most significant events in the world's history in the new history room of the Brooklyn Children's Museum and the many questions asked by the youngsters about the models are indicative of the important contribution the display of models is making to education, according to Miss Anna B. Gallup, curator-in-chief of the Children's Museum.

Twelve of the twenty-five models, which are the work of Dwight Franklin and which are taking two years to complete, have been placed in the history room. The child walking through this room—known as the Anna Hastings Hills room for its donor, Mrs. John Hills—may trace the story of man from the time when he first began to think to his present scientific achievements.

The first model of the series is entitled "A Thinker" and shows the solitary figure of a primitive man, his brow wrinkled in thought. Succeeding models show the man returning from a hunt, the beginning of family life, the first attempts at agriculture, and the beginning of pictorial art, the alphabet, and language. Then comes a group showing Phoenician sailors on a trading visit to Western Europe.

A particularly beautiful group already in place depicts Marco Polo appearing before Kublai Khan. In its preparation the artist was assisted by T'Eng Kwei, a Chinese artist, who visited New York last year. Two groups, one showing Prince Henry the Navigator, already installed, and the other Columbus, which will be added to the history room within a short time, also represent the age of exploration.

A group showing the signing of the Magna Carta by King John and another

showing one of the first presses in Europe and telling of the contribution made by Gutenberg to world-history are two other significant groups now in place. Another model shows George Washington at Valley Forge; another shows the Kitty Hawk, the first airplane. In addition to the Kitty Hawk, there will be five other groups showing the development of science in the eighteenth and nineteenth centuries. The world-history series will include groups representing the Renaissance and Elizabethan periods and Holland at the greatest point of her history and a group showing the development of music.

PICTURES FOR CIRCULATION

The *Christian Science Monitor* published the following statement.

An experiment in art appreciation among children has been inaugurated in Philadelphia by the Western Community House, which has started a circulating library of pictures. These will go out as loans, much in the same manner as books are distributed. Children will be allowed to keep pictures for a week, after which they may be returned and others borrowed.

The movement has been started in a small way. At the time of opening the library there were only 105 pictures available for circulation, a number of which were copies of famous masterpieces. The movement was inaugurated by Miss Emma B. Hires, head worker of the community house, who felt that many drab spots in the home life of children in that community could be brightened by a bit of colorful art work. She enlisted the assistance of a group of young artists, who agreed to donate some of their work and in other ways help in the movement.

In order to make the picture serve its maximum usefulness, a description goes with it, particularly if it happens to be of historic value, so that the child may learn something of the picture's origin or something of the story which it illustrates.

"For the present," explained Miss Hires, "we can lend only one picture to a family, although all the children are clamoring for them and want as many as they can have. One little fellow wanted to share his treasure in the biggest possible way, so he told me he was going to take his picture to his school because there were no pictures there and he thought his teacher and classmates would appreciate it.

"The children love pictures of farm and country life, perhaps because they see so little of it and because many of them have had journeys into the country during the summer months and like to be reminded of it. Pastoral scenes, with broad, rolling fields and homey looking farmhouses make these children fairly dance with joy and give their imaginations plenty of exercise.

"The children crave rich color because most of the homes into which our pictures go are drab and quite lacking in this way, and it is because of this that we believe we are filling a real need. Certainly, from the enthusiasm shown by the children, the movement ought to be successful."

THE TERCENTENARY OF MASSACHUSETTS BAY COLONY

The State Department of Education of Massachusetts has prepared a book entitled *Tercentenary of Massachusetts Bay Colony* to be used in the schools of that state in arranging programs for the celebration of the tercentenary. This book presents much historical material which will be useful to pupils in all parts of the United States.

The book contains some interesting material on the history of education. One part of the section on schools is as follows:

The Schoolmaster

The teacher of Colonial days did many things besides teaching school. He rang the church bell on Sunday, read the Bible in church, and led the singing. Sometimes he read the sermon. He did all the things a sexton does today, and often he even swept the church. One teacher, named Master Haystop, kept school in a little house on the corner of Franklin and Washington Streets. Someone tells about it in this way: "The building was very old—one of the early colonial buildings. The walls were time-stained; the door was old, and it led up to an old room on the second floor where we were taught by a teacher who was also very old. His dress was odd. He wore a tabby velvet coat, the tails of which sometimes stood straight out."

In a book called *Colonial Children* we find these rules about the schoolmaster:

"The schoolmaster shall faithfully attend his school and do his best to benefit his scholars. In this he is to use his best judgment, and not to remain away from school unless necessary."

"From the beginning of the first month until the end of the seventh, he shall begin to teach every day at seven of the clock in the morning. For the other five months he shall begin every day at eight of the clock in the morning and end at four in the afternoon."

One of the men who lived in the early days wrote this story about his life in school:

"When I was three years old, I was sent to school to a mistress, where I learned to read with great dispatch; in my fifth year, I was taken away and put to a writing master. In my seventh year I could flourish a tolerable hand, and began my grammar. By the time I was fourteen, I was considerably proficient in the Latin and Greek languages, and was admitted into Harvard College."

CAUSES OF NON-PROMOTION IN THE SCHOOLS OF MARYLAND

The annual report issued by the State Department of Education of Maryland is one of the most comprehensive and carefully prepared reports published by any of the state departments of educa-

tion in the United States. The recently published report for the year 1928–29 contains the results of a number of valuable studies. One section deals with non-promotion and among other tables includes the following, which presents information of general interest.

CAUSES OF NON-PROMOTION FOR WHITE ELEMENTARY-SCHOOL PUPILS NOT PROMOTED FOR YEAR ENDING JULY 31, 1929

Cause of Non-Promotion	One-Teacher Schools	Two-Teacher Schools	Graded Schools	All Elementary Schools	
				1929	1928
	Number				
Unfortunate home conditions and lack of interest	773	561	3,103	4,437	5,109
Mental incapacity	475	364	1,697	2,536	3,050
Irregular attendance not due to sickness	574	353	1,112	2,039	2,069
Personal illness	361	273	1,323	1,957	1,941
Thirteen years or over, employed	349	145	638	1,132	1,376
Transfer from other schools	171	119	546	836	850
Late entrance other than 100-day pupils	162	84	188	434	479
Other causes	334	160	891	1,385	1,554
Total	3,199	2,059	9,498	14,756	16,428
	Per Cent				
Unfortunate home conditions and lack of interest	4.1	4.0	4.4	4.3	5.0
Mental incapacity	2.5	2.6	2.4	2.5	3.0
Irregular attendance not due to sickness	3.0	2.5	1.6	2.0	2.0
Personal illness	1.9	2.0	1.8	1.9	1.9
Thirteen years or over, employed	1.9	1.0	0.9	1.1	1.3
Transfer from other schools	0.9	0.9	0.8	0.8	0.8
Late entrance other than 100-day pupils	0.9	0.6	0.3	0.4	0.5
Other causes	1.8	1.2	1.2	1.3	1.5
Total	17.0	14.8	13.4	14.3	16.0

WHAT TEACHERS WANT FROM SUPERVISORS

In *Proceedings of the Fifth Annual North Carolina Conference on Elementary Education*, published by the state superintendent of public instruction of North Carolina, there is a paper by Mary L. Knight, primary supervisor, Asheville, North Carolina, entitled

"Some Attainable Objectives in Six Supervisory Activities in the Elementary Grades." This paper reports the judgments of teachers regarding the relative helpfulness of certain supervisory activities. The section of the paper which deals with these judgments is as follows:

In order to make their supervisory efforts effective, the principals felt it to be important to learn the attitudes of the teachers toward the various supervisory activities. If the teachers looked with disfavor on a certain type of supervisory work, the success of this type would be hindered. In such cases, two courses would be open—either to reduce the emphasis upon that type of activity or to attempt to change the attitude of the teachers.

Each of the principals engaged in this study asked his teachers to rate the six general types of supervisory activities with reference to their desirability from the teachers' point of view. To permit of a greater analysis of the teachers' reaction, the teachers also rated each of the nineteen more specific types of supervisory duties. The teachers were not asked to sign their ratings, since the concealing of identity would probably promote greater frankness in expressing their real attitudes. The ratings of all the teachers were then combined and summarized. These summaries, which follow, provide an interesting outlook on supervision from the teachers' point of view.

SUPERVISORY ACTIVITIES RANKED IN ORDER OF DESIRABILITY FROM TEACHERS' STANDPOINT

I. Six general types
   1. Individual conferences with teachers (2.12)
   2. Pupil study and adjustment, including consultation with parents (2.84)
   3. Teachers' meetings (3.44)
   4. Class visitation and observation (3.84)
   5. Demonstration teaching (4.08)
   6. Testing and measuring (4.44)

II. Nineteen more specific types
   1. Hold office hours for teachers seeking help (4.36)
   2. Plan with new teachers individually (5.95)
   3. Give classroom demonstrations when requested (6.95)
   4. Help teachers with broad and suggestive recommendations (7.40)
   5. Hold instructional group meetings with new teachers (8−)
   6. Hold friendly personal conference with teacher following visit (8+)
   7. Send out mimeographed lesson helps (8.13)
   8. Hold frequent instructional conferences with teacher groups (8.50)
   9. Organize inspiration meetings with invited speakers (8.63)
   10. Send out mimeographed suggestions for reading and self-help (9.31)
   11. Advise and assist in the collection of collateral materials, visual aids, etc. (9.81)

12. Direct classification and instruction to meet individual differences (10.5)
13. Personally give prearranged model lesson at teachers' meetings (10.6)
14. Inspect and make recommendations concerning physical equipment of classroom (11.5)
15. Train and direct teachers in consistent use of texts (11.6)
16. Make silent, friendly classroom visits (13.1)
17. Organize special experimental work in the evaluation of texts and methods (13.2)
18. Give spontaneous demonstrations during visit (14.1)
19. Encourage invitations from teachers for special visits to their classrooms (14.4)

AN EDUCATIONAL DIRECTORY

The *Newark Evening News*, of Newark, New Jersey, published during 1929 a series of items listing the opportunities offered in Newark for adult education. These items have been brought together by the Newark Public Library in an attractive pamphlet entitled *Where Can I Learn It?* The editorial which describes the purpose and origin of the directory is as follows:

In co-operation with the Free Public Library, the *Newark Evening News* publishes today on this page the first of a series of condensed directories for the assistance of ambitious men and women who desire to study special topics either in spare time or as an exclusive pursuit. It may not be known to everybody how much Newark has to offer, free or for a modest expenditure, in education for special endeavors.

For years this service has been offered by the library authorities. Wider publicity will add to its value. Librarian John Cotton Dana has long believed in co-operation with all facilities for reaching those the library seeks to serve. This directory will be a regular feature in these columns two days a week, Tuesday and Friday, and all interested may learn such further details as are desired by addressing the library authorities direct or this newspaper.

A valuable by-product of the plan is the list of books suggested for reading with special courses. This feature of educational ambition will always be at the service of those interested.

The first item in the directory is as follows:

Many ambitious young men and women in this city would like to take up special studies of various kinds but do not know where they can obtain, free or for a nominal charge, the instruction they seek. The Newark Free Public Library, in co-operation with the *Newark Evening News*, offers this information in the subjoined table, which will be continued at frequent intervals until the whole field has been covered. As space for this feature is limited, only a few studies can be presented at a time, in alphabetical order. For such subjects as

rhetoric or zoölogy, far down on the list, which students may wish to take up at once, the Free Public Library will provide information if addressed by mail.

ACCOUNTING

Newark Technical School, 367 High Street.
Newark Institute of Arts and Sciences, 17–23 Academy Street.

ADMINISTRATION (BUSINESS)

Newark Technical School, 367 High Street.

ADVERTISING

Bergen Street Evening High School, Bergen and Bigelow Streets.
Central Evening High School, High and New Streets.
East Side Evening High School, Van Buren and Warwick Streets.
Fawcett School of Industrial Arts, 55–57 Academy Street.
Newark Institute of Arts and Sciences, 17–23 Academy Street.
West Side Evening High School, South Orange Avenue and South Twelfth Street.

ALGEBRA

Barringer Evening High School, Parker Street and Sixth Avenue.
Bergen Street Evening High School, Bergen and Bigelow Streets.
Central Evening High School, High and New Streets.
East Side Evening High School, Van Buren and Warwick Streets.
Newark Technical School, 367 High Street.
Fawcett School of Industrial Arts, 55–57 Academy Street.
Newark Institute of Arts and Sciences, 17–23 Academy Street.
West Side Evening High School, South Orange Avenue and South Twelfth Street.
Young Men's Christian Association, 107 Halsey Street.

ARCHITECTURAL DRAWING

Bergen Street, Central, East Side, West Side Evening High Schools, as above.
Essex County Vocational School for Boys, Sussex Avenue and First Street.

SUGGESTED BOOKS FOR READING WITH COURSES

Advertising—Public Library book numbers given in each case: One—*The Advertising Man*, Earnest Elmo Calkins, 659 C 1211. Two—*Principles of Advertising*, Daniel Starch, 659 St 211. Three—*Making Advertisements and Making Them Pay*, Roy S. Durstine, 659 D 93. Four—*What about Advertising?* Kenneth Goode and Hartford Powel, Jr., 659 G 61. Five—*Psychology in Advertising*, Albert T. Poffenberger, 659 P 75. Six—*Advertising Research*, Percival White, 659 W 58. Seven—*The Language of Advertising*, John B. Opdycke, 659 Op 1. Eight—*Making Type Work*, Benjamin Sherbow, 655.2 Sh 52.

If such a directory were published in every city, there would be much more adult education than there is at the present time.

DISCIPLINARY CASES

William S. Curd, principal of the Franklin Junior High School, Pocatello, Idaho, reports the following facts regarding the disciplinary cases in his school.

How many children in school are really difficult to control? It is a well-known fact that a large percentage of the teachers who fail do so because of lack of ability to discipline pupils. If all teachers could realize that only a few pupils are trouble-makers and center their efforts on the few, then the problem of discipline would be much simpler. Fortunately, most teachers understand the situation and therefore have little or no trouble. The few pupils who are likely to be discipline problems may be appealed to in a personal way, or the teacher may forestall trouble and avoid occasion for discipline.

A discipline study has just been completed in the Franklin Junior High School, Pocatello, Idaho. This school is well disciplined, but, as in any other school, constant attention must be given to the problem. Each teacher recorded on a blank the name of each offender and the number of offenses committed during a week. The offenses included every type of hindrance of school work from forgetting one's work materials to disobedience. In the week of checking, more than two-thirds of the pupils had no offenses charged against them. Of the 33 per cent to whom the teachers found it necessary to speak, one-third were charged with only one offense during the week. Clearly these pupils could not be called habitual offenders. Five per cent of the pupils in the school committed more than one-half of all the offenses, and 3 per cent of the pupils committed 35 per cent of all the offenses.

Every teacher was given another blank asking for the names of all the pupils who had during the previous three months committed major offenses, such as wilful disobedience, insolence, or leaving school without permission. With the exception of one pupil, the pupils on this list were identical with the 5 per cent of the pupils on the first list who committed more than 50 per cent of the offenses. While the school has made no charges against pupils to the juvenile court or to the city police, all the pupils who have come before that court or the police for offenses out of school are included in the list of major offenders.

The study is a good indication that only a small number of pupils are discipline problems, and it is believed that, if teachers center their efforts on these few pupils, there will be little occasion for discipline in school.

THE YOUNG CITIZENS LEAGUE OF SOUTH DAKOTA

A recent issue of *School Service*, a publication of D. Appleton and Company, contains the following account of an organization of elementary-school pupils in South Dakota.

South Dakota boys and girls are learning citizenship by actual practice. Through the Young Citizens League, a state-wide organization, they are participating in their own school affairs. There are at the present time over four

thousand chartered chapters of this organization in the grade schools of South Dakota with a membership of over seventy-five thousand children.

The League has its own constitution, by-laws, and pledge. Parliamentary procedure is followed in all regular meetings. The activities include the improvement of school grounds; the management of socials and entertainments, the proceeds of which are used for the purchase of books and school equipment; the building of reading tables, sand tables, and similar articles; and the publication of school papers.

The social activities sponsored, in addition to providing a source of revenue, have filled a distinct community need and have often been the means of developing a spirit of co-operation in a neighborhood.

During the past year several hundred Young Citizens League school papers were published regularly. Upper-grade boys and girls have expressed themselves in their editorial columns with surprising fluency. In addition, fifty-seven of the sixty-four counties of the state have published League news letters, which contain original stories and poems by the children as well as news of the activities of local chapters, and this year a monthly state paper is also being published.

Fire-prevention week was the occasion of a state-wide educational campaign, in which the Young Citizens League co-operated with the state fire marshal. Health conditions have also been improved by advertising good-health rules and by dealing with the problems of ventilation and water supply through such practical means as the digging of cisterns and the purchase of sanitary water containers.

During the past year, however, the major project was to build up the grade-school libraries. About twenty-five thousand volumes were added to the libraries by the League. Through its efforts, also, 1,294 rural- and grade-school libraries were recatalogued and reconditioned.

There is an annual state convention, and county conventions have been held throughout the state. The programs have featured a higher standard of citizenship. School papers, project work, patriotism, health and sanitation, preservation of school property, co-operation with parent-teacher associations, and other subjects related to school activities were discussed.

The Annual Report of the Young Citizens League Project Work for 1928, compiled by the executive state secretary, E. C. Giffen, of the South Dakota State Department of Public Instruction, bears striking evidence that the League has resulted in increased school attendance, in fewer discipline problems, and in higher morale in school and community.

PRINCIPALS' SALARIES AND SCHOOL ENROLMENT

The following editorial was published in the *New York Sun*.

Until January, 1924, there was a uniform salary schedule for all elementary and junior high school principals under the jurisdiction of the Board of Education. The size of a school or the number of grades in it did not affect the pay of

the principal. The head of a school with eighty to one hundred classes received the same financial reward as his neighbor who may have had not more than twenty-five teachers to supervise. Moreover, there was no distinction so far as salary was concerned between elementary and junior high school supervisors.

Principals protested against what they termed the obvious injustice of this arrangement. In 1923 they succeeded in getting the legislature to enact a law providing that the salaries of principals "shall be fixed, determined, and adjusted in classes according to grade, size, and type of school supervised." The details were left to the Board of Education, which in 1924 established three sets of rates for elementary-school heads and three more for those in charge of junior high schools.

Justice at last! But the satisfaction of the principals did not last long. Grumblings and protests were heard almost at once. There was too much wire-pulling for the larger schools, which paid from $500 to $1,000 more than the smaller ones, and there was even more wire-pulling—so it was alleged—for the junior high school principalships, which paid still more. The chief weakness of the new schedule lay in the dissatisfaction it caused whenever shifting population necessitated reduction in the size of a school. Thus, a principal, through no fault of his own, might find his pay cut $500 a year because the number of classes in his school fell from eighty-five to eighty-four. So this year the legislature, at the request of the principals, repealed the graded-salary law and again established a uniform rate for all elementary-school heads.

Under the schedules heretofore in effect principals of elementary schools with twenty-five to forty-eight classes received $5,000 to $6,000 a year, depending on length of service; those in charge of schools with forty-nine to eighty-four classes received $5,500 to $6,500; and those whose schools had eighty-five or more classes received $6,000 to $7,000. Junior high school heads received $500 a year more in each of the respective salary grades.

A bill just signed by the Governor establishes a salary scale of $5,000 to $7,000 for all elementary-school principals irrespective of school size. Principals will progress from the $5,000 to the $7,000 rate by increments of $250 a year on the basis of length of service. The newly enacted measure does not mention the compensation of junior high school heads, but it may be assumed that the idea of a uniform salary schedule will be applied to them by the Board of Education.

Theoretically, it seems no more than just that the principal of a large school shall receive more pay than he who supervises a school half the size. But the best way to test the validity of a theory is to apply it, and, having done so for six years, the principals of this city, in effect, confess that they were wrong when they requested enactment of the graded-salary law.

THE GENERAL-LANGUAGE COURSE IN DETROIT

In a recent issue of the *Modern Language Journal*, Lilly Lindquist, supervisor of foreign languages in the Detroit public schools,

describes an interesting experiment which is being tried in the junior high schools of Detroit. She says in part:

We are now giving our pupils in the eighth grade of the junior high school a preliminary and exploratory course in general language, which serves three purposes: first, it is a prognosis of language ability; second, it is a laboratory course in the basic principles of language; third, it is a tryout in several foreign languages presented in their relations to English.

We take the term "general language" to mean a survey of language as a whole from its simple beginnings to the highly developed instrument that it is today. By the Socratic method we evolve the nature, the function, and the importance of language as a tool in human progress. This leads to a study of the origin and development of the English language, and its relationship to other languages. Thus we obtain background for the study of the essential principles of language structure, necessitating a thorough review of the fundamentals of grammar.

The chief aim of this course is primarily to strengthen the pupils' English by presenting it to them from new angles and incidentally to arouse an interest in foreign languages because of their relationship to English. By a study of the foreign elements in English the pupil is brought to see the value of studying a foreign language. When he realizes the composite nature of English with its Germanic base and Romanic superstructure and its trimmings and ornaments, borrowed bits here and there, he doesn't say, "What's the use?" . . . .

Following is an outline of the course as now given.

PART I—25 LESSONS

I. Introduction. 1. Origin and nature of language. (*a*) Gestures, expressive movements, signs, signals. (*b*) Sounds, cries, speech. 2. Development of language. (*a*) Growth, steps in word formation. (*b*) Change. 3. Function of language. (*a*) Communication, exchanging ideas. (*b*) Tool of thought, reasoning. 4. Importance of language. (*a*) Necessary for the progress of the race. 5. Definition. (*a*) Language from Latin *lingua*, a means of communication.

II. The art of writing. 1. The five steps in the development of writing. (*a*) The alphabet. (*b*) Our English alphabet.

PART II—25 LESSONS

I. Map study tracing the movements of the different peoples who came to Britain. II. Topics in connection with early English history. III. Brief summary of Early English with special reference to language. IV. The Indo-European or Aryan family of languages to which English belongs.

PART III—35 LESSONS

I. Easy lessons in French for the purpose of comparing it with English. II. Easy Spanish to compare with English. III. Easy German to compare with English. IV. Reasons for studying modern foreign languages.

PART IV—50 LESSONS

A series of easy Latin and English lessons to show their relationship and clarify technical grammar needed for an understanding of both languages.

PART V—10 LESSONS

Greek in English for the purpose of understanding the many technical words in daily use.

PART VI—30 LESSONS

Dictionary study and derivatives in order to put to actual use the knowledge of foreign elements in English which have been studied and to enrich the vocabulary and lay a firm foundation for future language growth.

To sum up, the general-language course serves to eliminate the linguistically unfit, thus diminishing failures, and commends itself therefore as a measure of economy of time and money. It is a unit in itself, and, whether the pupil actually undertakes the study of a foreign language or not, the course will be beneficial because it helps to improve the pupil's English; it enriches his vocabulary; it correlates with all English work as well as with history; it is rich in by-products; it is both practical and cultural. While it does not pretend to teach any language, it teaches *about* language, and it opens up an inexhaustible source of valuable linguistic material, which in many cases will prove as worth while as a mere smattering of a foreign language, which seems to be all that many of our foreign-language pupils have today. With a select group continuing a foreign language for three years after getting a general-language background, we should soon have reason to be better satisfied with the products of our labors.

A NATIONAL-FLAG SUPPLY SERVICE

The United States Flag Association, Washington, D.C., has issued the following announcement.

The United States Flag Association has organized a supply service the function of which is to supply flags, flagpoles, national bunting, flag books, flag charts, and other patriotic products. Not only can flags of every description, national bunting, flag books, flag charts, and other patriotic products be secured from the Association at a saving of from 5 to 10 per cent of the regular retail price, but the Association guarantees correct design. All profits are used in helping to carry on the program of the United States Flag Association for the patriotic education of the youth of America. Therefore, when schools purchase flags, flagpoles, bunting, and other patriotic products through the United States Flag Association, they not only save money but also contribute to the patriotic education of the childhood of our country.

THE LEGAL RELATION BETWEEN SCHOOL DISTRICTS AND MUNICIPALITIES

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Municipal officers not infrequently assume a degree of control over the public schools which they do not legally possess. Such an assumption of power may grow out of a failure to distinguish clearly between the functions of the municipality and those of the school district, or it may represent a deliberate attempt to subordinate the schools to the control of the mayor and the city council. In either case the results are likely to prove disastrous. Subordination of the school board to the mayor and the city council may result in unwise and ill-considered educational policies. It may do more than that; it may open the door to fraud and corruption in both school and municipal affairs. It is a matter of great practical importance, therefore, that school-board members and superintendents of city schools know the extent of their own powers as well as the limitations upon the powers of the city authorities. The courts have been called on repeatedly to define the legal relation between school districts and municipalities. There are, therefore, well-defined legal principles governing that relation. It is the purpose of this article to state these principles and to illustrate their application.

EDUCATION A STATE FUNCTION

The courts have found it necessary to formulate a theory of education based on fundamental principles of public policy. In legal theory the public school is a state, not a local or municipal, institution.[1] Power to maintain a system of public schools is an attribute of government in much the same sense as is the police power or the

[1] *City of Louisville* v. *Commonwealth*, 134 Ky. 488, 121 S.W. 411; *Bissell* v. *Davison*, 65 Conn. 183, 32 Atl. 348, 29 L.R.A. 251; *Leeper* v. *State*, 103 Tenn. 500, 53 S.W. 962, 48 L.R.A. 167; *Miller* v. *Korns*, 107 Ohio St. 287, 140 N.E. 773; *State* v. *Haworth*, 122 Ind. 462, 23 N.E. 946, 7 L.R.A. 240.

power to administer justice, to maintain military forces, or to tax.[1] The state finds its right to tax in order to maintain a system of public schools in its duty to promote the public welfare, the good order and peace of society.[2]

The relation of the public school to the state is clearly defined in a case[3] decided by the Court of Appeals of Kentucky. An act of the legislature of Kentucky fixed the minimum tax levy for school purposes in cities of the first class at thirty-six cents on one hundred dollars valuation. The school board of the city of Louisville presented to the city council a budget which required a levy of at least the amount provided for in the statute. The council refused to make the levy, contending that the statute in question violated the following provision of the state constitution.

> The General Assembly shall not impose taxes for the purpose of any county, city, town or other municipal corporation, but may by general laws confer upon the proper authorities thereof respectively power to assess and collect such taxes.

In issuing a writ of mandamus which required the city council to levy the tax, the court said in part:

> If the maintenance of a public school is a purely municipal purpose, then the section would seem to be conclusive of the matter. But education is not a subject pertaining alone, or pertaining essentially, to a municipal corporation. Whilst public education in this country is now deemed a public duty in every state, and since before the first federation was regarded as a proper public enterprise, it has never been looked upon as being at all a matter of local concern only. On the contrary, it is regarded as an essential to the preservation of liberty—as forming one of the first duties of a democratic government. The place assigned it in the deliberate judgment of the American people is scarcely second to any. If it is essentially a prerogative of sovereignty to raise troops in time of war, it is equally so to prepare each generation of youth to discharge the duties of citizenship in time of peace and war. Upon preparation of the younger generations for civic duties depends the perpetuity of this government. The

[1] *City of Louisville* v. *Commonwealth*, 134 Ky. 488, 121 S.W. 411; *Leeper* v. *State*, 103 Tenn. 500, 53 S.W. 962, 48 L.R.A. 167; *City of Edina* v. *School District of City of Edina*, 305 Mo. 452, 267 S.W. 112.

[2] *Bissell* v. *Davison*, 65 Conn. 183, 32 Atl. 348, 29 L.R.A. 251; *Fogg* v. *Board of Education*, 76 N.H. 296, 82 Atl. 173, 37 L.R.A. (N.S.) 1110, Ann.Cas. 1912C 758; *Scown* v. *Czarnecki*, 264 Ill. 305, 106 N.E. 276, Ann.Cas. 1915A 772; *Leeper* v. *State*, 103 Tenn. 500, 53 S.W. 962, 48 L.R.A. 167.

[3] *City of Louisville* v. *Commonwealth*, 134 Ky. 488, 121 S.W. 411.

power to levy taxes is an essential attribute of the sovereignty. That is so because the necessity of conducting the government requires that money be raised for the purpose by some sort of taxation. So is the power to educate the youth of a state, to fit them so that the state may prosper; else the taxes raised could scarcely meet the demands made upon a government in these times. Whilst the power named is older in point of adoption as a legal maxim, the other is modernly found to be of no less importance. It may be doubted if the state could strip itself of either quality of its sovereignty. Certainly it will not be deemed to have attempted it upon language open to debate.

STATE AGENCIES OF CONTROL

Public education being essentially and intrinsically a state, or governmental, function, the state may employ whatever agencies it sees fit for the administration of its educational policies. It may place the entire management and control of the school system in a central board or state officer; or, for purposes of convenience, it may make use of the existing subdivisions of the state, such as counties, townships, towns, and cities. Within constitutional limitations, the legislature may authorize, or even require, these existing subdivisions of the state to perform certain duties with respect to the establishment and the maintenance of schools. If it seems the best policy, the legislature may delegate to the municipality complete control of the public schools. On the other hand, the municipal territory may be constituted a school district wholly independent of the municipality proper. Under no circumstances, however, does a city have inherent control over the public schools. Whatever powers it may possess with respect to public education are necessarily delegated either by statute or by charter.

It is the policy of most states to organize cities and incorporated towns into school districts which are corporations separate and distinct from the municipalities. Thus, two corporate entities are superimposed upon the same territory. In such cases, a great deal of confusion is likely to arise because of failure to distinguish between the city as a municipal corporation and the city as a quasi corporation or school district. The two corporations have different functions to perform and are as separate and distinct as if they were located in different sections of the state.[1] The city is a municipal

[1] *People* v. *Munising Township*, 182 N.W. 118.

corporation created primarily for the purposes of local self-government—to enable the locality to regulate and administer its own local concerns. The school district, on the other hand, is a quasi corporation, a purely political or civil division of the state. It is created as an instrument of the state in order to facilitate the administration of government. While in territorial extent the school district may be identical with the municipal corporation, its duties are in no sense local. Its function is the execution of state policy.

AUTHORITY TO SPEND MUNICIPAL FUNDS FOR SCHOOL PURPOSES

According to the weight of judicial opinion, a city cannot, in the absence of statutory authority, spend its funds for the maintenance of public schools.[1] Such is the case because public education is in no sense a local or municipal function. Thus, it was said by the Supreme Court of Ohio:

> While it is a fact that the city of Cleveland and the City School District of the City of Cleveland are substantially the same in population and territory, yet they are nevertheless separate and distinct political subdivisions. Therefore the city of Cleveland cannot make a gift to the City School District of the City of Cleveland, notwithstanding such a gift is for the benefit of substantially the same public.[2]

In a case decided by the Supreme Court of Louisiana action was brought to test the authority of the town of Homer to establish a high school and to levy a tax for its support. In denying such authority to the town, the court said:

> The defense is that under Art. 209 of the constitution municipal corporations have the power and authority to levy and collect taxes to the amount of ten mills for municipal purposes, and that an assessment for educational purposes is a municipal regulation. . . . .
>
> Corporations are the creatures of legislative will, and can do no act not authorized by their charters, unless it is by implication necessary to carry out conferred powers.

[1] *Nelson* v. *Mayor, etc., of Town of Homer*, 48 La.Ann. 258, 19 So. 271; *Board of Education* v. *Alton Water Company*, 314 Ill. 466, 145 N.E. 683; *Water-Supply Company* v. *City of Albuquerque*, 9 N.M. 441, 54 Pac. 969; *Board of Education* v. *Richmond*, 137 N.Y.S. 62; *National Water Works Company* v. *School District of Kansas City*, 23 Mo.App. 227; *Rodman* v. *Town of Washington*, 122 N.C. 39, 30 S.E. 118.

[2] *City of Cleveland* v. *Public Library Board of City School District of City of Cleveland*, 94 Ohio St. 311, 114 N.E. 247.

In the original charter there was no grant of any right to the corporation of Homer to erect a school building and maintain a high school. It cannot by its own act usurp powers not granted. There was no authority under the act for the corporation to so amend its charter as to authorize the levying of a tax for the maintaining of a high school or for any other educational purpose. . . . . The subject of education is an important matter, and it is so treated by the state, as it seems to be jealous of the exercise of the power by subordinate political corporations, as it has not granted local self-taxation for this purpose. . . . . A high school is not essential to municipal government; a system of education is not a part of municipal regulation, and the power of a corporation to establish a public school cannot be inferred from any power necessary for municipal existence.[1]

Similarly, it has been held in a number of cases that a city may not furnish water free of charge to public-school buildings.[2] In holding that the city of Alton had no authority to furnish water to the public schools free of charge, the Supreme Court of Illinois said:

A municipal corporation holds its property in trust for public uses, and its funds can be used only for corporate purposes. They cannot be diverted to private use. Nor can the municipal authorities or the electors give away the money or property of the municipality.

The city of Alton and the appellant board of education are separate corporate entities, each clothed with the power of taxation for its corporate purpose and for none other. They are organized under different laws, each for a specific purpose. . . . . The board of education would have no power to levy a tax for the purpose of maintaining a city waterworks system or any purpose for the sole benefit of the city in its corporate capacity; nor would the city have any authority to levy a tax for the maintenance of a community high school.[3]

In California, on the other hand, it was held that a city might issue bonds for the construction of school buildings notwithstanding the fact that the school district and the city were separate corporations and the school district had authority to issue its own bonds for building purposes.[4] So far as the writer knows, California is the only state in which such a position has been taken.

[1] *Nelson* v. *Mayor, etc., of Town of Homer*, 48 La.Ann. 258, 19 So. 271.

[2] *Board of Education* v. *Alton Water Company*, 314 Ill. 466, 145 N.E. 683; *Water-Supply Company* v. *City of Albuquerque*, 9 N.M. 441, 54 Pac. 969; *Board of Education* v. *Richmond*, 137 N.Y.S. 62; *National Water Works Company* v. *School District of Kansas City*, 23 Mo.App. 227.

[3] *Board of Education* v. *Alton Water Company*, 314 Ill. 466, 145 N.E. 683.

[4] *Los Angeles City School District* v. *Longden*, 148 Cal. 380, 83 Pac. 246; *Wetmore* v. *City of Oakland*, 99 Cal. 146, 33 Pac. 769.

MUNICIPAL CONTROL OF SCHOOL BUILDINGS

Inasmuch as public schools are state institutions, public-school buildings are state property held in trust for the state by the local school officers.[1] It follows, therefore, that municipal officers have no authority in the control and management of school buildings unless such authority is conferred by statute.[2] A case[3] decided by the Supreme Court of Wisconsin illustrates the reasoning of the courts. In 1925 the legislature of that state enacted a statute authorizing boards of education of cities of the first class, of which Milwaukee was one, to report to the city council the amount of money required for the next fiscal year for the repair and maintenance of school buildings. Thereupon the duty of the city council was to levy a tax equal to the amount required by the board of education, provided the amount should not exceed one mill on the dollar of the total assessed valuation of the city. The Board of Education of Milwaukee estimated that the amount necessary to keep the buildings in repair for the year 1926 would be $750,000, and the Board requested the mayor and the city council to levy a tax for that amount. The mayor and the council refused to levy the tax on the ground that the statute violated the following provision of the state constitution.

> Cities and villages organized pursuant to state law are hereby empowered to determine their local affairs and government, subject only to this constitution and to such enactments of the legislature of a state-wide concern as shall with uniformity affect every city or every village.

In issuing a writ of mandamus which required the council to levy the necessary tax, the court said:

> It is contended that the repair of school buildings constituted a local affair of the city of Milwaukee, and that by the constitutional provision just quoted the legislature is prohibited from legislating upon that subject except by general law which "shall with uniformity affect every city or every village"; that as Ch. 285, Laws 1925, affected only cities of the first class, it was not a law which "uniformly affected every city or every village."

[1] *Attorney-General* v. *Lowrey*, 199 U.S. 233, 50 L.Ed. 167; *Pass School District* v. *Hollywood City School District*, 156 Cal. 416, 105 Pac. 122, 26 L.R.A. (N.S.) 485, 20 Ann.Cas. 87; *Carson* v. *State*, 27 Ind. 465.

[2] *H. Schmitt & Son* v. *City of Milwaukee*, 185 Wis. 119, 200 N.W. 678; *State* v. *Mayor, etc., of City of Milwaukee*, 189 Wis. 84, 206 N.W. 210; *Salt Lake City* v. *Board of Education*, 52 Utah 540, 175 Pac. 654.

[3] *State* v. *Mayor, etc., of City of Milwaukee*, 189 Wis. 84, 206 N.W. 210.

It is obvious that the limitation placed upon the power of the legislature with reference to laws which "shall with uniformity affect every city or every village" is confined to the "local affairs and government" of cities and villages. With reference to all subjects that do not constitute "local affairs," or relate to the government of cities and villages, the legislature has the same power of classification that it had before the adoption of the home-rule amendment. Respondents' contention, therefore, must rest upon the proposition that the repair of school buildings within the city of Milwaukee is a local affair of said city. If not, respondents' contention must fall. . . . .

If the field of legislation upon the subject of education belongs to the state, it belongs to it in its entirety. If the cause of education is not a subject of municipal regulation, the municipality cannot touch it or interfere with it in the slightest degree. School buildings are an essential agency in the state's educational scheme, and to allow municipalities a voice in the construction, repair, control, or management of the school buildings within their borders is to yield to them the power to frustrate the state's plan in promoting education throughout the state. If power be granted to interfere in this respect, there would be no logical limitation to municipal interference with the district schools. . . . .

These considerations lead irresistibly to the conclusion that, although the boundaries of a school district may be coterminous with the boundaries of a city, there is no merger of the school district affairs with the city affairs. They remain separate and distinct units of government for the purpose of exercising separate and distinct powers and for the accomplishment of separate and distinct purposes. It follows that the so-called "home-rule amendment" imposes no limitation upon the power of the legislature to deal with the subject of education, and this applies to every agency created or provided, and to every policy adopted by the legislature, having for its object the promotion of the cause of education throughout the state.

Another Wisconsin case[1] is in point. The city of Milwaukee adopted an ordinance providing a minimum wage for labor employed "in any work done by the city of Milwaukee, either new construction work or repair work on any roads, buildings, or any other public works whatsoever." Action was brought to restrain the city from enforcing the ordinance with respect to labor employed in constructing a new public-school building. In granting the injunction, the court pointed out that the school directors and not the common council had the authority to make contracts for school buildings notwithstanding the fact that the statutes required that such contracts should run in the name of the city, should be countersigned by the city comptroller, and should be approved by the city at-

[1] *H. Schmitt & Son* v. *City of Milwaukee*, 185 Wis. 119, 200 N.W. 678.

torney. Since the school directors had authority to make the contract in question, they could not be interfered with nor controlled by the city council. To hold otherwise, in the opinion of the court, would be to permit the common council to dictate to the school board the conditions of contracts for school buildings and to authorize the council to do indirectly the very thing that the legislature had expressly directed should be done by the school board.

A number of cases have come into the courts involving the authority of municipalities to require school boards to obey municipal building ordinances. In all such cases, the issue is whether a municipal corporation may exercise its police power over property under the control of a quasi corporation. In determining such issues, one must keep in mind that the state is the source of all police power and that a municipality possesses only such police power as has been delegated to it expressly or by necessary implication. Moreover, a quasi corporation, such as a school district, is an agent of the state. The officers of the school district are state officers; the property of the district is state property subject to state control and direction. It follows, therefore, that police power with respect to school property is to be exercised by the officers of the school district unless the state has delegated the exercise of such police power to the officers of the municipality.

A case decided by the Court of Appeals of Kentucky illustrates the reasoning of the courts. A municipal ordinance of the city of Louisville, in which was located a state school for the education of blind children, required all buildings of a certain class to have fire escapes. In holding that the ordinance could not be enforced with respect to state property, the court said:

> But beyond that is the larger question, and the one upon which this decision is rested; that is, that the state will not be presumed to have waived its right to regulate its own property by ceding to the city the right generally to pass ordinances of a police nature regulating property within its bounds. . . . . The principle is that the state, when creating municipal governments, does not cede to them any control of the state's property situated within them, nor over any property which the state has authorized another body or power to control. The municipal government is but an agent of the state—not an independent body. It governs in the limited manner and territory that is expressly or by necessary implication granted to it by the state. It is competent for the state to retain to

itself some part of the government even within the municipality, which it will exercise directly, or through the medium of other selected and more suitable instrumentalities. How can the city have ever a superior authority to the state over the latter's own property, or in its control and management? From the nature of things it cannot have.[1]

This reasoning is supported by a case[2] decided by the Supreme Court of Utah. Action was brought to enjoin the Board of Education of Salt Lake City from proceeding with the construction of a school building until the building ordinances of the city were complied with. The statutes did not specifically authorize the city to exercise police power with respect to school buildings, but they did provide that the city commission should have power "to prescribe the manner of constructing stone, brick, and other buildings, and the construction of fire escapes; and to cause all buildings used for public purposes to be provided with sufficient and ample means of exit and entrance, and to be supplied with necessary and appropriate appliances for the extinguishment of fire, to prevent the overcrowding thereof, and to regulate the placing and use of seats, chairs, benches, scenery, curtains, blinds, screens, or other appliances therein." By statute the city commission also had power "to define the fire limits, and prescribe limits within which no building shall be constructed except of brick, stone, or other incombustible material, without permission, and to cause the destruction or removal of any building constructed or repaired in violation of any ordinance, and to cause all buildings and inclosures which may be in a dangerous state to be put in a safe condition or removed." It was contended by the city that this general grant of police power was broad enough to include power over public-school buildings. The court, however, took a contrary position, reasoning that public-school property is state property subject to the police power of the state unless expressly made subject to the police power of the municipality.

Under our constitution and statutes, however, we can conceive of no distinction between what are denominated by counsel "state buildings," such as the buildings of the State University, or the Capitol, and our school buildings. True, the control of the university is placed in the hands of a board of regents whose

[1] *Kentucky Institution for Education of Blind* v. *City of Louisville*, 123 Ky. 767, 8 L.R.A. (N.S.) 553, 97 S.W. 402.

[2] *Salt Lake City* v. *Board of Education*, 52 Utah 540, 175 Pac. 654.

duties and powers are perhaps defined with more particularity and detail than are the powers of the boards of education. That may perhaps also be true respecting the State Capitol. Be that as it may, however, the public-school buildings and their control are of as much concern to the state as are the other buildings, and a careful reading of the constitutional provisions and statutes relating to education clearly shows that the entire public-school system . . . . remains entirely within the control of the state legislature, and hence within the control of the state, except where certain powers are delegated to the several boards of education as herein indicated. If it be conceded, therefore, as it is and must be, that the state has not surrendered the control over its buildings to the cities, then it necessarily follows that the terms "public buildings" and "all buildings" used in the subdivisions of Section 206, *supra*, which we have quoted, do not embrace all buildings within the cities. Moreover, if state buildings must be excluded, then public-school buildings must likewise be excluded from those terms.

It should be pointed out, however, that the Supreme Court of California has held that a city, under a general grant of police power, may require the school district to obey the building code of the city.[1] The court did not consider the issue whether school property is state property but based its conclusion on the consideration that the powers of a municipal corporation are generally broader than the powers of a quasi corporation and on what it deemed the necessity of subordinating the police power of the school board to that of the city in order to insure public safety. The writer is of the opinion that neither of these considerations is sound. Public policy will not, of course, permit a school board to erect buildings which jeopardize the life or the property of the citizens of the municipality; but, to protect the public welfare in this particular, it is not necessary to extend the police power of the municipality to include supervision of school property. If a school board attempts to construct or maintain a building which is dangerous to person or property, the remedy lies in an action in equity for the abatement of a nuisance. This position was taken by the Supreme Court of Utah in the case of *Salt Lake City* v. *Board of Education*, wherein it was said:

If, however, a school board should attempt to construct a school building of improper, unsafe, or inflammable material, or so near to another building, public or private, as to make the school building a menace or a danger to such other

[1] *Pasadena School District* v. *City of Pasadena*, 166 Cal. 7, 134 Pac. 985, Ann. Cas. 1915B 1039, 47 L.R.A. (N.S.) 892.

buildings, either the city or the owner of the building thus menaced or endangered, or any interested person, would have a speedy and adequate remedy in a court of equity to have the school building declared a nuisance and have it made safe or removed.[1]

MUNICIPAL SUPERVISION OF SCHOOL FINANCE

In the exercise of its plenary control over education, the legislature may adopt any mode of financing the public schools which is not prohibited by the constitution. Either the board of education or the city authorities may be given complete control over school finance. In any particular instance the degrees of control to be exercised by either school-board members or municipal officers must be ascertained by reference to statutory and charter provisions.[2] Under no circumstances, however, will municipal officers be permitted by the courts to exercise any greater degree of control over school finance than that clearly intended by the legislature.

Not infrequently the statutes require that the school board submit its budget to the city council for approval. Where such procedure is necessary, the question may arise whether the council may reduce the budget submitted by the school board. The answer to this question depends on the wording of the statutes and of the charter of the city. If these documents, construed together, reveal that the approval of the budget and the levy of the necessary taxes are merely ministerial duties, the council must approve the budget as submitted and levy the tax necessary to produce the required amount.[3] If, on the other hand, it appears that the council is vested with the right to exercise discretion as to the amount to be raised for school purposes, the council may reduce the budget as in its opinion may seem wise.[4]

[1] *Salt Lake City* v. *Board of Education*, 52 Utah 540, 175 Pac. 654.

[2] *Union School District of City of Saginaw* v. *Council of City of Saginaw*, 232 Mich. 639, 206 N.W. 573; *Board of Education* v. *Townsend*, 140 Ky. 248, 130 S.W. 1105; *State* v. *Mayor, etc., of City of Omaha*, 39 Neb. 745, 58 N.W. 442.

[3] *Board of Education* v. *Mayor, etc., of City of Kingfisher*, 5 Okla. 82, 48 Pac. 103; *Union School District of Bay City* v. *Board of Estimates of Bay City*, 235 Mich. 323, 209 N.W. 91; *Union School District of City of Saginaw* v. *Council of City of Saginaw*, 232 Mich. 639, 206 N.W. 573; *Board of Education* v. *Townsend*, 140 Ky. 248, 130 S.W. 1105.

[4] *Leonard* v. *School Committee of City of Springfield*, 241 Mass. 325, 135 N.E. 459; *Matter of Emerson* v. *Buck*, 230 N.Y. 380, 130 N.E. 584; *Reif* v. *Schwab*, 197 N.Y.S. 127; *Fleischmann* v. *Graves*, 245 N.Y. 84, 138 N.E. 745; *Fuhrmann* v. *Graves*, 235 N.Y.S. 77 138 N.E. 743.

Such discretionary power must be very clear, however, because its exercise virtually places the control of the schools in the hands of the city council.[1]

Even though the statutes may authorize the city council to fix the amount of the school budget, it does not follow that the council may direct how the gross amount shall be spent.[2] The board of education may spend the funds at its disposal in any manner and for any purposes permitted by law. In the case of *Leonard* v. *School Committee of City of Springfield*,[3] for example, the school committee requested an increase in the budget in order to raise the salaries of the teachers. The mayor and the city council adopted an itemized budget which made no provision for an increase in salaries. The committee, in order to provide money for an increase in salaries, voted to eliminate the summer schools and certain kindergarten schools. Thereupon, action was brought to enjoin the committee from diverting money from the purposes for which it had been appropriated to other school purposes. The court denied the injunction. Similarly, in a number of other cases the right of the board of education to fix the salaries of teachers was sustained even though the common council had the right to determine the total amount which the board could spend.[4]

[1] *Union School District of City of Saginaw* v. *Council of City of Saginaw*, 232 Mich. 639, 206 N.W. 573; *Board of Education* v. *Board of Estimates of City of Saginaw*, 230 Mich. 495, 203 N.W. 68.

[2] *Fuhrmann* v. *Graves*, 196 N.Y.S. 776; *Reif* v. *Schwab*, 197 N.Y.S. 127; *Graham* v. *Joyce*, 134 Atl. 332; *Bailey* v. *Duffy*, 45 R.I. 304, 121 Atl. 129; *Hardy* v. *Lee*, 36 R.I. 302, 90 Atl. 383; *Leonard* v. *School Committee of City of Springfield*, 241 Mass. 325, 135 N.E. 459; *Fleischmann* v. *Graves*, 245 N.Y. 84, 138 N.E. 745.

[3] *Leonard* v. *School Committee of City of Springfield*, 241 Mass. 325, 135 N.E. 459.

[4] *Fuhrmann* v. *Graves*, 196 N.Y S. 776; *Graham* v. *Joyce*, 134 Atl. 332; *Hardy* v. *Lee*, 36 R.I. 302, 90 Atl. 383.

THE RELIABILITY OF THE EVIDENCES OF TEACHING EFFICIENCY SECURED IN EXTENSION VISITATION

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INTRODUCTION

One of the most vigorously discussed movements today is that of having young teachers in service visited by representatives of the colleges that trained them. Edgar C. Higbie, president of the Eastern State Teachers College, Madison, South Dakota, who is an active leader in this movement, stated in a privately circulated bulletin that in the school year 1928–29 twenty-one teachers' colleges were carrying on some form of follow-up work in addition to the receiving of reports from local supervisors. In answer to a questionnaire prepared by the writer for the American Association of Teachers Colleges, thirty-two presidents of teachers' colleges reported that they were providing for their graduates a year or two of supervision in the field, while twenty others reported that they were contemplating the provision of such supervision. Twenty-five presidents reported that they were employing one or more persons whose exclusive duty was to supervise in the field, and twenty-three others were contemplating the appointment of such supervisors. Follow-up supervision was discussed in five addresses which the writer heard in different meetings at the convention of the Department of Superintendence held in 1929.

In laying the foundations for the follow-up work at the Louisiana State Normal College, the writer believed that the undertaking should be regarded as experimental. There are two major questions: (1) How much does such service help the young teachers who are visited? (2) How much may it help the college in its subsequent plans for training? This report makes no attempt to answer the first question. It contributes toward the answer to the second by

showing something of the reliability of the evidences of teaching efficiency which are secured in the limited visitation possible for the extension visitor. Thus, it helps to refine the judgment of those responsible for the selection of young people for teacher-training and of those responsible for recommending them to teaching positions.

The writer, acting as an extension visitor, in 1928–29 visited the classrooms of 112 young graduates of the Louisiana State Normal College. He carried with him a detailed rating sheet; but, instead of merely recording a rating for each item, he recorded the specific evidence obtainable on as many items of the rating sheet as possible. If there was no specific evidence on any item, no rating was given on that item. The evaluation of a teacher's efficiency was made by counting the number of evidences of good teaching and the number of evidences of poor teaching. Reports were received from local supervisors on 98 of the 112 teachers who were visited. The evidences secured by the extension visitor were compared with the ratings given by the local supervisors and with the evidences of expected efficiency recorded during the course of training. The causes of discrepancy between the evidences of efficiency secured by the extension visitor and the expectations of the training period were carefully analyzed.

EXTENT OF AGREEMENT BETWEEN REPORTS FROM LOCAL SUPERVISORS AND EVIDENCES SECURED BY EXTENSION VISITOR

Table I gives data on the extent to which the ratings of the local supervisors, given on the rating sheet in the usual way, agreed with those of the extension visitor, who recorded the facts obtained in a single class period by the method already described. A correlation of .41 with a probable error of .06 indicates only a moderate relation, but it shows a certainty of some relation. The probable error of estimate of 17 means that, if one should estimate the rating of an individual teacher by the extension visitor from the rating given by the local supervisor, one would be within seventeen points of correct in about half the cases. Actually, the two ratings agreed within seventeen percentile points in forty-eight of the ninety-eight cases.

If the whole group of ninety-eight teachers is divided into three sections in each of the two ratings, the chances are that eighty-two

out of one hundred individuals will not be found in the highest third in one distribution and in the lowest third in the other; that is, about eighteen out of one hundred individuals who were ranked by the local supervisor in the highest third will be ranked in the lowest third by the extension visitor.

WHICH OF THE TWO RATINGS IS THE MORE RELIABLE?

The assumption that the more reliable of these two sources of evidence is that which agrees more closely with the expectation of

TABLE I

EXTENT OF AGREEMENT BETWEEN RATINGS OF LOCAL SUPERVISORS AND RATINGS OF EXTENSION VISITOR

Coefficient of correlation	.41
Probable error	.06
Probable error of estimate	17
Number of cases with both records available	98
Number of cases within 17 percentile points on the two records	48
Number of cases within 33 percentile points on the two records	71
Number of cases within 50 percentile points on the two records	84
Number of cases within 67 percentile points on the two records	95
Number of cases within 83 percentile points on the two records	97
Median deviation in percentile points	18

efficiency revealed by the course of training is at least tenable. This assumption would not be true in every case but would probably be true when all the cases are combined. The three factors in the course of training from which predictions were made were intelligence-test scores, the marks received during training, and ratings in practice teaching. Table II shows that the ratings obtained from the evidence secured by the extension visitor agreed with each of the three predictive factors better than did the ratings assigned by the local supervisors. The probable errors are such that no one of the differences between the two correlations could be trusted alone, but the probability of true differences is increased by the fact that the dif-

ferences are all in the same direction; that is, in the case of each predictive factor the correlation between the predictive factor and the ratings obtained from evidence secured by the extension visitor is higher than the correlation between the predictive factor and the ratings of the local supervisors.

If this difference represents merely the difference between the ability of the extension visitor to judge teaching and the ability of the local supervisors, it is not particularly significant. However, it represents a difference in the reliability of the two methods of evalu-

TABLE II

CORRELATION OF THE TWO SOURCES OF EVIDENCE OF TEACHING EFFICIENCY WITH THE PREDICTIONS OF THE COURSE OF TRAINING

Predictive Factor	Correlation with Ratings of Local Supervisors	Probable Error of Correlation with Ratings of Local Supervisors	Correlation with Evidence Secured by Extension Visitor	Probable Error of Correlation with Evidence Secured by Extension Visitor
Intelligence-test scores.....	−.08	.07	.20	.06
Marks received during training..	.15	.05	.40	.05
Ratings in practice teaching.....	.16	.05	.26	.06
Combined predictive factors.....	.16	.05	.39	.06

ation. The difference is between the careful analysis of a small sample of teaching performance and a random judgment based on a much larger sample. This study tends to show the greater reliability of careful analysis of a small sample of teaching. If local supervisors learn to analyze in the same way, they can give even more reliable ratings because their reports can be based on more adequate samples.

THE CAUSES OF DISCREPANCY BETWEEN PREDICTED EFFICIENCY AND EFFICIENCY AS JUDGED BY THE EXTENSION VISITOR

How could the analyses made by the extension visitor have been made more reliable? This question can be answered in part by studying the causes of discrepancy between predicted efficiency and the evidences of efficiency secured by the extension visitor. A list of eleven possible causes was drawn up. The data were analyzed to find the point at which each suggested cause began to be accompanied by deviation of the rating by the extension visitor from that predicted in training. For example, the length of the visit was analyzed to

find how many minutes of class visitation were necessary to reach the closest agreement between the evidences of efficiency observed during the visit and the efficiency predicted from the records of the training period. Tables III, IV, and V summarize the analyses. In the cases in which the securing of less than ten points of evidence was considered the possible reason that the extension visitor rated the performance of a teacher higher than the predictions of training

TABLE III

FACTORS TENDING TO RAISE THE RATING OF A TEACHER IN RELATION TO THE PREDICTION OF TRAINING

Factor	Number of Cases	Average Upward Percentile Deviation from Prediction	Number of Cases with More than 25 Percentile Points Upward Deviation	Number of Cases with More than 25 Percentile Points Downward Deviation
Reasons existed why the extension visitor might be favorably biased toward the teacher	13	21	6	0
Teachers were in their second year of teaching	22	12	7	1
Teachers were visited before the morning recess	29	9	6	1
Less than ten points of evidence were secured	19	18	11	2
The visit was less than thirty minutes in duration	30	17	12	2
The teacher taught only one grade	55	5	16	7
The teacher had had practice teaching in the particular field in which the observations were made	24	7	6	2

would lead one to expect, a detailed tabulation of the deviations from predicted efficiency with each number of points of evidence secured showed that, when there were less than ten points, there was a decided tendency to rate the teacher high in relation to the training records. After ten points of evidence were secured, the relation between the rating and the prediction seems to have been little affected until about twenty-three points of evidence were secured, when there began to be a tendency to underrate the teacher in relation to the prediction. These tabulations cannot be given in detail because of lack of space.

Of the eleven possible factors analyzed, seven were found to have

been significant in leading to an evaluation of the teacher's performance that was higher than was to be expected from the prediction of training. These are shown in Table III. The most potent of these was "Reasons existed why the extension visitor might be favorably biased toward the teacher." Fortunately, this possibility existed in only 13 of the 112 cases. The causes of such favorable bias were: strong praise of the teacher by the local supervisor before the visit, nine cases; special helpfulness of the teacher to the extension visitor in other phases of his work, two cases; favorable impression left by previous observation of the person's teaching, one case; the observations immediately preceding made in a very backward district, one case. Apparently, it is important to guard against hearing anything about the teacher before the visit. The factor that influenced the largest number of cases was "The teacher taught only one grade." About half the teachers visited taught only one grade; the others, more than one. It is clear that the former teachers were in a favorable situation, which gave them an advantage. The general policy was to visit teachers during their first year of teaching, but twenty-two teachers were in their second year at the time of the visit. These were found to be doing significantly better in relation to their promise in training. The advantage of being visited early in the morning may be due either to superior performance by the teacher at that time of day or to a more favorable attitude on the part of the observer. A detailed study of the general variability gives evidence that it is chiefly the performance of the teacher which is affected but that the attitude of the observer may be slightly influenced.

Table IV shows the five factors that were found to be significant in leading to an evaluation of the teacher's performance that was lower than was to be expected from the prediction of training. The most potent of these was concentration of the evidence on a few items of the rating sheet. If the whole of the period of observation was spent on one procedure—for example, drill in arithmetic—a few outstanding weaknesses of the teacher in this work might be apparent without being balanced by evidences of satisfactory teaching in other procedures. Again the factor that was most potent involved only a small number of cases. The factor that involved the largest number of cases was visitation in the afternoon. Visitation in the

afternoon did not have as great a tendency to lower the teacher's rating as visitation in the early part of the day had to raise it, the

TABLE IV

FACTORS TENDING TO LOWER THE RATING OF A TEACHER IN RELATION TO THE PREDICTION OF TRAINING

Factor	Number of Cases	Average Downward Percentile Deviation from Prediction	Number of Cases with More than 25 Percentile Points Downward Deviation	Number of Cases with More than 25 Percentile Points Upward Deviation
Reasons existed why the extension visitor might be unfavorably biased toward the teacher	13	7	3	2
Teachers were visited in the afternoon	40	2	9	8
More than twenty-three points of evidence were secured	20	12	8	2
More than two points of evidence for each item on the rating sheet were counted	8	22	2	0
The teacher taught more than two grades	11	13	3	1

TABLE V

FACTORS TENDING NEITHER TO RAISE NOR TO LOWER THE RATING OF A TEACHER IN RELATION TO THE PREDICTION OF TRAINING

Factor	Number of Cases	Average Percentile Deviation from Prediction	Number of Cases with More than 25 Percentile Points Downward Deviation	Number of Cases with More than 25 Percentile Points Upward Deviation
Teacher had less than twenty-five pupils	45	0.3	8	10
Teacher had twenty-five or more pupils	43	4.0	6	11
The work being done was in accord with curriculum taken during training	46	2.0	7	12
The work being done was not in accord with curriculum taken during training	40	5.0	6	10

average downward deviation in the former case being two percentile points and the upward deviation in the latter case being nine percentile points. Likewise, unfavorable bias toward the teacher was

not found to be so potent an influence as was favorable bias. The former produced an average downward deviation of seven points compared with an average upward deviation of twenty-one points in the latter case. In ten of the thirteen cases of unfavorable bias, the cause of the bias was an unfavorable report from the local supervisor before the visit.

Table V shows that two factors which would perhaps be expected to have a great bearing on a teacher's success were not significant. The fact that a teacher had a large number of pupils did not tend to make her work less efficient in relation to the prediction of training. The fact that a teacher who was trained for the higher grades was teaching a lower grade was surprisingly insignificant.

SUMMARY

1. The writer made a detailed analysis of the procedures in a single class period of each of 112 normal graduates.

2. The correlation between the ratings of the teachers derived from the analyses and the ratings given by local supervisors was .41.

3. The correlation between the ratings derived from these analyses and the predictions of training was .39, compared with a correlation of .16 between the ratings given by local supervisors and the predictions of training.

4. Seven factors were discovered which influenced the extension visitor to give higher ratings than were to be expected from the predictions of training.

5. Five factors were discovered which influenced the extension visitor to give lower ratings than were to be expected from the predictions of training.

6. The size of the class taught and the relation between the grade in which the teacher was working and those for which she had prepared were not found to be significant factors.

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FORMAL AND INFORMAL INSTRUCTION IN UNITED STATES HISTORY IN THE SEVENTH GRADE

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The purpose of this article is to report an investigation conducted in the teaching of United States history in the seventh grade of the Laboratory School of the University of Chicago. The investigation was undertaken in order to determine the comparative value of formal instruction and informal instruction in assisting pupils to reduce the number of errors in their written work.

Five types of errors caused by difficulties associated with reading were identified in papers written by pupils in two sections when studying the first unit of the course. The fact that the papers were written immediately after the reading of historical accounts indicates that the errors were caused by difficulties associated with reading. The errors made by the pupils in the two sections were classified under five headings: (1) biased views, 72 cases; (2) misplaced topics, 87 cases; (3) omission of significant facts, 81 cases; (4) fundamental misconceptions, 108 cases; and (5) incorrect statements, 131 cases. It is recognized that, with the exception of incorrect statements, this classification of errors is subjective and is dependent on the judgment of the investigator—in this case, the instructor. However, judgment was based on predetermined definitions of types of errors, and the bases were the same for all pupils.

A record was kept of the number of errors of the five types made by the pupils during the study of Units 2–9 of the course. Instruction in Units 2–5 of the course was given to the twenty-one pupils in Section A by a formal method and to the twenty-one pupils in Section B by an informal method. During the study of Units 6–9 of the course, the procedure was reversed; that is, the pupils in Section B were taught by the formal method, and the pupils in Section A were taught by the informal method. Records were kept of the results of each type of instruction.

When formal instruction was employed, the errors, which were identified and marked by the instructor, became the subject of special study. After the pupils had corrected the errors in their written work, they immediately prepared exercises focused on the types of errors which they had made. These exercises, of course, were additional assignments, and their purpose was to assist the pupils in eliminating errors of the same types in later papers. When informal instruction was employed, the errors, which were identified and marked by the instructor, did not become the subject of special study. The pupils corrected the errors in their written work, but they did not prepare exercises focused on the types of errors which they had made. It was assumed, when informal instruction was employed, that the pupils understood their difficulties after they had corrected their errors and that additional assignments were unnecessary.

The first four types of errors were defined as follows for the purposes of this study: A "biased view" is a statement of a controversial matter which is not supported by sufficient evidence or which is supported by evidence arranged in such a way that it indicates undue prejudice. The following views included in papers written by pupils during the study of Unit 3, "How America Became an Independent Nation," are examples of views which were classified as biased: "Great Britain had no reason to reorganize the old empire." "The navigation acts were more reasonable than the revenue acts." "The American colonists won the Revolutionary War because of their superior strength." A "misplaced topic" is an item which does not contribute to the understanding of the subject under which it is included. During the study of Unit 3, already referred to, pupils occasionally included items about the Stamp Act Congress in their written discussions of Great Britain's attempt to reorganize the old empire. Such items relate to another phase of the unit, namely, the resistance of the colonists to British measures, and in this particular course they are misplaced when included in a discussion of British attempts to reorganize the old empire. "Omission of significant facts" is the omission of items essential to the understanding of the subject of study. For three years the writer has tabulated the facts which the pupils who have studied the units of

the course in United States history have found it necessary to include in their written discussions in order to indicate mastery of the subjects of study. These essential facts illuminate the subject of study, contribute to an understanding of the end product sought, and are definitely significant. Omission of any one of these facts was considered an error. A "fundamental misconception" is a misunderstanding of a significant aspect of the subject of study. The following statements included in the written work of pupils during the study of Unit 3 are examples of fundamental misconceptions as defined in this study: "The king of England was supported unanimously by the people of England in 1776." "The greater portion of the American colonists desired to fight England to gain complete freedom." "The colonists were afraid to protest until after the Revolutionary War had begun."

The pupils in the two sections were compared in order to ascertain their relative ages and abilities. In Section A the average chronological age in months was 149.1; in Section B, 149.0. In Section A the average intelligence quotient was 109.5; in Section B, 109.1. The average rate of reading as measured by the Gray Silent Reading Test was 3.27 for Section A and 3.42 for Section B. The average rate of reading as measured by the Monroe Standardized Silent Reading Test was 85.2 for Section A and 95.3 for Section B; the average comprehension score on the same test was 26.1 for Section A and 29.3 for Section B. The average comprehension score on the Thorndike-McCall Reading Scale was 27.8 for Section A and 27.6 for Section B. The slight differences between the pupils in the two sections appear to have little or no significance so far as the scores made in the units of the course in United States history are concerned.

During the study of each of the units of the course the pupils in Sections A and B wrote three papers immediately after the reading of historical accounts. Table I shows the number of errors of each type found in the papers written during the study of Units 2–5. The pupils in each section were classified in three groups on the basis of the number of errors found in their papers. In each section the seven pupils in the low third were those who made the largest numbers of errors; the seven pupils in the middle third were those

who made average numbers of errors; and the seven pupils in the high third were those who made the smallest numbers of errors. The pupils were grouped in this way in order to study the comparative value of formal instruction and informal instruction in the case of near-problem pupils, average pupils, and superior pupils.

TABLE I

NUMBER OF ERRORS OF EACH TYPE MADE BY LOW THIRD, MIDDLE THIRD, AND HIGH THIRD OF PUPILS IN SECTIONS A AND B ON PAPERS WRITTEN DURING THE STUDY OF UNITS 2–5

	Biased View	Misplaced Topic	Omission of Significant Fact	Fundamental Misconception	Incorrect Statement	Total Number of Errors
Low third:						
Section B (informal instruction)....	133	186	126	141	166	752
Section A (formal instruction)....	87	121	113	116	104	541
Difference in favor of formal instruction.....	46	65	13	25	62	211
Middle third:						
Section B (informal instruction)	30	106	44	60	104	344
Section A (formal instruction)....	30	75	46	46	59	256
Difference in favor of formal instruction.....	0	31	— 2	14	45	88
High third:						
Section B (informal instruction)	7	51	17	10	38	123
Section A (formal instruction)....	21	11	19	13	28	92
Difference in favor of formal instruction.....	— 14	40	— 2	— 3	10	31

Table I shows that the pupils in each of the three groups of the section taught by the formal method made fewer errors than did the pupils in the corresponding group of the section taught by the informal method. However, the fact that the differences between the numbers of errors made by the pupils in the two sections are not the same for the three groups indicates that the formal method did

not have equal value for the pupils in the three groups. In the case of the low third, the number of errors made by the pupils in the section taught by the informal method exceeds the number of errors made by the pupils in the section taught by the formal method by 211. This difference is significant when it is noted that, in the case of the high third, the number of errors made by the pupils in the section taught by the informal method exceeds the number of errors made by the pupils in the section taught by the formal method by only 31. A variation in the differences in the case of the low third and the high third was to be expected, but the margin of 180 is surprising. The differences shown in the table indicate that formal instruction was of greater value for the average pupils than for the superior pupils and of less value for the average pupils than for the near-problem pupils.

The pupils in the high third of the section taught by the formal method made more errors caused by fundamental misconceptions, omitted more significant facts, and included more biased views than did the pupils in the high third of the section taught by the informal method. The writer knows of no valid reason why informal instruction was more effective in reducing errors of these three types and formal instruction was more effective in reducing errors of the two other types. This difference in the effects of the two methods, in addition to the fact that the numbers of errors made by the pupils in the high thirds of the two sections were nearly the same, appears to warrant the statement that the superior pupils who were taught by the formal method did not profit by the use of this method to an extent which justifies its employment with superior pupils.

The pupils in the low third and the middle third of the section taught by the formal method were able to reduce their errors to an extent which would probably be considered sufficient to justify the employment of this method in teaching near-problem and average pupils.

Table II shows the number of errors of each type found in the papers written by the pupils in Sections A and B during the study of Units 6–9 of the course. This table shows also that the pupils in each of the three groups of the section taught by the formal method made fewer errors than did the pupils in the corresponding group of

the section taught by the informal method. As was the case in Units 2–5, the differences between the numbers of errors made by the pupils in the two sections are not the same for the three groups and indicate that the formal method did not have equal value for

TABLE II

NUMBER OF ERRORS OF EACH TYPE MADE BY LOW THIRD, MIDDLE THIRD, AND HIGH THIRD OF PUPILS IN SECTIONS A AND B ON PAPERS WRITTEN DURING THE STUDY OF UNITS 6–9

	Biased View	Misplaced Topic	Omission of Significant Fact	Fundamental Misconception	Incorrect Statement	Total Number of Errors
Low third:						
Section A (informal instruction)	86	128	113	135	127	589
Section B (formal instruction)	83	126	87	110	121	527
Difference in favor of formal instruction	3	2	26	25	6	62
Middle third:						
Section A (informal instruction)	48	89	57	57	71	322
Section B (formal instruction)	22	59	29	37	82	229
Difference in favor of formal instruction	26	30	28	20	− 11	93
High third:						
Section A (informal instruction)	21	26	28	14	35	124
Section B (formal instruction)	9	40	16	11	36	112
Difference in favor of formal instruction	12	− 14	12	3	− 1	12

the pupils in the three groups. During the study of Units 6–9 the pupils in the middle third of the section taught by the formal method received more benefit from this method than did the pupils in the low third. This condition is the reverse of that found in the case of the four preceding units, where the pupils in the low third received the most benefit from formal instruction. No particular significance

should be attached to this reversal during the second period since the amount by which the difference between the middle thirds exceeds the difference between the low thirds is small and indicates that the pupils in these groups received approximately the same benefit from the formal method. In the case of the middle third, the number of errors made by the pupils in the section taught by informal instruction exceeds the number of errors made by the pupils in the section taught by formal instruction by 93. In the case of the high third, the number of errors made by the pupils in the section taught by informal instruction exceeds the number of errors made by the pupils in the section taught by formal instruction by only 12. This difference of 81 is no greater than might reasonably have been expected for the second period of instruction.

The pupils in the high third of the section taught by the formal method misplaced more topics and made more incorrect statements than did the pupils in the high third of the section taught by the informal method. This result, in addition to the fact that the difference between the numbers of errors made by the pupils in the high thirds of the two sections is very small, appears to warrant the statement that the superior pupils who were taught by the formal method did not profit from the use of this method to an extent which justifies its employment with superior pupils.

During the study of Units 6–9 the pupils in the low third and the middle third of the section taught by the formal method reduced their errors to an extent sufficient to justify the employment of this method in teaching near-problem and average pupils.

A comparison of Tables I and II shows that the total number of errors made by the pupils in the low thirds and the middle thirds of the two sections during the study of Units 2–5 exceeds by 226 the total number of errors made by the same groups during the study of Units 6–9. The pupils in the high thirds, however, made twenty-one more errors during the study of Units 6–9 than they made during the study of Units 2–5. Thus, it appears that the understanding developed during the first period was carried over to the second period in the cases of the near-problem and the average pupils but not in the case of the superior pupils.

Table III shows the number of errors found in the papers of the

twenty-one pupils in Section A during the periods of formal and informal instruction. With three exceptions, the pupils in Section

TABLE III

NUMBER OF ERRORS FOUND IN WRITTEN WORK OF TWENTY-ONE PUPILS IN SECTION A DURING INFORMAL AND FORMAL INSTRUCTION

PUPIL	METHOD OF INSTRUCTION		DIFFERENCE IN FAVOR OF FORMAL INSTRUCTION
	Informal (Units 6–9)	Formal (Units 2–5)	
Low third:			
1	81	78	3
2	87	76	11
3	86	75	11
4	84	85	− 1
5	88	78	10
6	80	78	2
7	83	71	12
Total	589	541	48
Average	84.14	77.29	6.85
Middle third:			
8	50	42	8
9	49	35	14
10	44	35	9
11	48	36	12
12	44	37	7
13	41	35	6
14	46	36	10
Total	322	256	66
Average	46.00	36.57	9.43
High third:			
15	16	10	6
16	19	10	9
17	19	12	7
18	17	17	0
19	19	14	5
20	17	19	− 2
21	17	10	7
Total	124	92	32
Average	17.71	13.14	4.57

A made fewer errors when formal instruction was employed. The average differences shown in this table indicate that the pupils in the middle third made the greatest improvement during the period of formal instruction and that the pupils in the high third made the

least improvement. However, the differences between the improvement made by the pupils in the low, middle, and high thirds are

TABLE IV

NUMBER OF ERRORS FOUND IN WRITTEN WORK OF TWENTY-ONE PUPILS IN SECTION B DURING INFORMAL AND FORMAL INSTRUCTION

PUPIL	METHOD OF INSTRUCTION		DIFFERENCE IN FAVOR OF FORMAL INSTRUCTION
	Informal (Units 2–5)	Formal (Units 6–9)	
Low third:			
1	98	71	27
2	108	72	36
3	114	77	37
4	112	86	26
5	103	85	18
6	121	60	61
7	96	76	20
Total	752	527	225
Average	107.43	75.29	32.14
Middle third:			
8	48	40	8
9	51	39	12
10	48	36	12
11	51	36	15
12	48	37	11
13	52	41	11
14*	46	.....	.....
Total	344	229	115
Average	49.14	38.17	10.97
High third:			
15	14	16	− 2
16	22	19	3
17	19	16	3
18	17	16	1
19	25	20	5
20	14	13	1
21	12	12	0
Total	123	112	11
Average	17.57	16.0	1.57

* This pupil withdrew before Units 6–9 were studied.

small, as shown by the average differences of 6.85, 9.43, and 4.57, respectively.

Table IV shows the number of errors found in the papers of the pupils in Section B during the periods of formal and informal in-

struction. With the exception of two pupils in the high third, the pupils in Section B made fewer errors when formal instruction was employed. The average differences in Table IV indicate that the pupils in the low third made the greatest improvement during the period of formal instruction and that the pupils in the high third made the least improvement. The average difference in the case of the low third exceeds the average difference in the case of the high third by 30.57. This margin indicates that the formal method was more effective in the case of the near-problem pupils than in the case of the superior pupils. However, Table III indicates that, for Section A, the formal method was the most effective in the case of the pupils in the middle third, but the average difference in the case of the middle third exceeds the average difference in the case of the high third by only 4.86. The average difference for the pupils in the middle third of Section B compares favorably with the average difference for the pupils in the middle third of Section A.

A comparison of Tables III and IV shows that the pupils in the low third of Section A, who were instructed by the formal method on Units 2–5 and by the informal method on Units 6–9, made 48 more errors during the period of informal instruction, while the pupils in the low third of Section B, who were instructed by the informal method on Units 2–5 and by the formal method on Units 6–9, made 225 more errors during the period of informal instruction. The situation was similar in the case of the pupils in the middle thirds. The pupils in the middle third of Section A made 66 more errors during the period of informal instruction, while the pupils in the middle third of Section B made 115 more errors during the period of informal instruction. This condition was reversed in the case of the pupils in the high thirds. The pupils in the high third in Section A made 32 more errors during the period of informal instruction, while the pupils in the high third in Section B made 11 more errors during the period of informal instruction. Thus, there appears to be a relation between the number of errors made and the time of the use of formal instruction. In the case of the pupils in the low thirds and in the middle thirds, informal instruction *preceded* by formal instruction resulted in fewer errors than informal instruction *followed* by formal instruction. In the case of the pupils

in the high thirds, informal instruction *followed* by formal instruction resulted in fewer errors than informal instruction *preceded* by formal instruction. In the case of near-problem and average pupils, therefore, the understanding developed during the period of formal instruction was carried over to the period of informal instruction; in the case of the superior pupils, the understanding developed during the period of formal instruction was not carried over to the period of informal instruction.

SUMMARY

No generalization should be made on the basis of a single study of this nature, but it appears from the data here assembled that pupils of superior ability may waste their time on exercises which are effective in improving the work of average and near-problem pupils. In so far as the results of the investigation here reported may be regarded as a basis for generalization, it appears that the formal method of instruction is of value in the case of pupils in the low and middle thirds and is of practically no value in the case of pupils in the high third. Neither the formal nor the informal method of instruction is distinctly superior in enabling pupils to reduce the number of errors of every type studied, particularly in the case of superior pupils. Teachers must judge for themselves the extent to which errors should be made the subject of special study, basing their judgment on the ability of their pupils and the types of errors involved.

SUMMARY OF ARITHMETIC INVESTIGATIONS (1929)

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In 1925 a monograph was published by the Department of Education, University of Chicago, entitled *Summary of Educational Investigations Relating to Arithmetic.* This monograph contains a bibliography and summary of 320 articles and books which report investigations of the methods and results of teaching arithmetic. Annually since 1925 the writer has published in the *Elementary School Journal* a supplement to this original monograph, in which the investigations reported during the previous year are summarized. The supplementary summaries published from 1926 to 1929 contain a total of 212 references. The present summary contains 52 additional references. Consequently, the original monograph and the five summaries list a total of 584 articles and books relating to investigations in arithmetic. These 584 references include all the serious scientific studies in this field which could be found.

During 1929, 113 studies were published which the writer was able to locate and examine. Of these 113 studies, 61 are opinionated in character and contain no objective data whatever. The remaining 52 studies, which are listed in the following bibliography, are either quantitative or critical in character, and they represent the publications for 1929 which are worth serious study by students of education. Where difference in judgment might exist as to whether a study should be included, the writer has applied a liberal criterion. Consequently, there may be some articles in the list the inclusion of which might be difficult to justify if one applied the terms "quantitative" and "critical" in a rigid manner.

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"How Much Number Do Children Know?" *Educational Research Bulletin* (Ohio State University), VIII (September 11, 1929), 279–84.
A brief report of a very elaborate investigation of the knowledge of arithmetic possessed by children on entering school. Concludes that children are quite "ready" for the teaching of number when they enter the first grade.

10. BUSWELL, GUY THOMAS.
"Summary of Arithmetic Investigations (1928)," *Elementary School Journal*, XXIX (May and June, 1929), 691–98, 737–47.
The fourth annual supplement to the monograph published in 1925 summarizing all scientific studies relating to arithmetic. Summary covers fifty-six studies.

*11. CAVINS, LORIMER V.
"Arithmetic," *Survey of Education in West Virginia*, II, 58–69. Charleston, West Virginia: State Board of Education, 1928.
Presents data relating to achievement in arithmetic, methods of teaching, and teaching equipment in city and rural schools. Also compares results of test in computation with results of test in reasoning.

12. CHASE, V. E.
"The Diagnosis and Treatment of Some Common Difficulties in Solving Arithmetic Problems," *Journal of Educational Research*, XX (December, 1929), 335–42.
Describes a general technique for determining the causes of difficulty in reasoning. Illustrates technique by detailed account of one case. Shows changes resulting from three months of remedial treatment.

13. CLAPP, FRANK L., CHASE, WAYLAND J., and MERRIMAN, CURTIS.
"A Study of the Effectiveness of Two Kinds of Teaching Material," *Introduction to Education*, pp. 420–24. Boston: Ginn & Co., 1929.
Report of a controlled experiment on the teaching of percentage, the only variable being the type of material used.

14. COIT, WILBUR A.
"The Demons of Elementary Mathematics," *School Science and Mathematics*, XXIX (January, 1929), 50–58.
An analysis of the errors made by high-school pupils and university students on a test in simple arithmetic.

15. COVERT, TIMON.
"Arithmetic Abilities of Pupils," *Educational Achievements of One-Teacher and of Larger Rural Schools*, pp. 10–12. Bureau of Education Bulletin, No. 15, 1928.
Presents data showing superiority in arithmetic of children in consolidated schools as compared with children in one-teacher schools.

* This reference came to the attention of the writer too late to be included in the summary for 1928.

16. CROFTS, THOMAS J.
"A Scale for Arithmetic Texts," *Chicago Schools Journal*, XI (June, 1929), 363–66.
A summary of a rather extensive investigation by the author as a basis for the construction of a defensible score card for arithmetic textbooks.

17. DESCOEUDRES, ALICE.
"Arithmetic," *The Education of Mentally Defective Children*, pp. 230–93. Translated from the second French edition by Ernest F. Row. Boston: D. C. Heath & Co.
A rather extended discussion of methods of teaching arithmetic to mentally backward children.

18. ELSBREE, WILLARD S., HALSEY, H. R., and ELSBREE, ELIZABETH S.
"Arithmetic," *The Teacher's Handbook*, pp. 3–9, 97–111. New York: Teachers College, Columbia University, 1929.
Presents in categorical form the answers to seventy-six questions relating to arithmetic. In many cases refers to specific pieces of research to support answers. Somewhat too brief to avoid being dogmatic on certain issues.

19. GABBERT, MARY L.
"Remedial Cases in Arithmetic: Case 1," *Peabody Journal of Education*, VII (November, 1929), 147–55.
A detailed case study of a fourth-grade boy. Shows how ineffective habits of work may be changed by specific teaching after adequate diagnosis. An example of a good report of a case study.

20. GARRISON, S. C., and GARRISON, K. C.
"The Psychology of Arithmetic" and "Measuring the Results of Instruction in Arithmetic," *The Psychology of Elementary School Subjects*, pp. 429–90. Richmond, Virginia: Johnson Publishing Co., 1929.
A critical summary of a considerable number of investigations in arithmetic. No new material presented.

21. GREENE, HARRY A., and JORGENSEN, ALBERT N.
"Diagnostic and Remedial Techniques: Arithmetic," *The Use and Interpretation of Educational Tests*, pp. 231–50. New York: Longmans, Green & Co., 1929.
Summarizes and evaluates various research studies dealing with diagnostic and remedial techniques in arithmetic.

22. GUILER, WALTER SCRIBNER.
"Improving Computational Ability," *Elementary School Journal*, XXX (October, 1929), 111–16.
Reports the results of a remedial program in computation in a seventh grade. Both group and individual diagnoses were made. Average gain over a twelve-week period amounted to 20.4 per cent.

23. HANNA, PAUL R.
Arithmetic Problem Solving: A Study of the Relative Effectiveness of Three Methods of Problem Solving. New York: Teachers College, Columbia University, 1929. Pp. 68.
A comparison of three methods of problem-solving. Subjects were fourth- and seventh-grade pupils of three levels of ability in arithmetic. Practice extended over a period of six weeks.

24. JONES, R. G., and BUCKLEY, H. M.
The Bazaar as a School Activity. Cleveland, Ohio: Board of Education, 1929. Pp. 128.
An account of an arithmetic bazaar held in an elementary school in Cleveland. A unique experiment in curriculum-making.

25. KLINE, AARON.
"An Elementary Arithmetic Program," *Chicago Schools Journal*, XI (April, 1929), 291–93.
A critical article presenting five types of work which the author considers essential in an elementary course of study in arithmetic.

26. KNIGHT, F. B.
"Analyzing the Distribution of Drill in Fractions," *Journal of Educational Method*, VIII (January, 1929), 205–11.
A reply to an article by Brueckner published in the May, 1928, number of the *Journal of Educational Method.*

27. KREGEL, LUVELLA J.
"A General Plan of Development in Teaching Units of Work in Upper Grade Arithmetic," *Journal of Educational Method*, VIII (May, 1929), 453–58.
Discusses and illustrates desirable units of work for upper-grade arithmetic. Presents a limited amount of data giving results of tests on units described.

28. KULP, C. L.
"A Method of Securing Real-Life Problems in the Fundamentals of Arithmetic," *Elementary School Journal*, XXIX (February, 1929), 428–30.
Describes a method of securing real-life problems from parents of school children. Presents examples of the types of problems submitted.

*29. LAZAR, MAY.
Diagnostic and Remedial Work in Arithmetic Fundamentals for Intermediate Grades. New York: Board of Education, 1928. Pp. 204.
A comprehensive study of methods of diagnosing pupil difficulties and of using tests and remedial measures. Contains new quantitative data. An outstanding contribution.

* This reference came to the attention of the writer too late to be included in the summary for 1928.

30. LINDQUIST, THEODORE.
"Teaching the Number Combinations," *Journal of the National Education Association*, XVIII (May, 1929), 163–64.
A critical evaluation of certain methods of teaching number facts.

31. MACKINTOSH, W. D.
"Making Algebra 'Harmless,'" *Journal of Education*, CIX (May 27, 1929), 585–89.
Shows the relation between certain methods of learning arithmetic and success in algebra. Compares American and foreign practices in teaching certain topics in arithmetic.

32. MILLER, G. A.
"The So-called Hindu-Arabic Numerals," *School and Society*, XXIX (March 23, 1929), 390–91.
A note on the history of the Arabic numerals.

33. MILLER, G. A.
"Origin of Our Common Positional Arithmetic," *School and Society*, XXX (September 28, 1929), 431–32.
A critical historical article.

34. MITCHELL, CLAUDE.
"The Specific Type of Problem in Arithmetic versus the General Type of Problem," *Elementary School Journal*, XXIX (April, 1929), 594–96.
Finds little transfer of training from specific to general problems. Amount of training on specific problems was small, however, being limited to practice on fifteen problems.

35. MONROE, WALTER S.
How Pupils Solve Problems in Arithmetic. Bureau of Educational Research Bulletin No. 44. University of Illinois Bulletin, Vol. XXVI, No. 23. Urbana, Illinois: University of Illinois, 1929. Pp. 32.
An elaborate study of the nature of pupils' responses in solving problems. Subjects were 9,256 pupils in forty-one cities in Illinois. Conclusion is reached that a large percentage of seventh-grade pupils solve problems by habit rather than by reason.

36. MORTON, R. L.
"An Evaluation of Arithmetic Teaching," *Educational Research Bulletin* (Ohio State University), VIII (September 11, 1929), 267–73.
A criticism of certain practices of teaching in terms of scientific investigation and educational theory.

37. NIFENECKER, EUGENE A.
Diagnostic and Remedial Work in Arithmetic Fundamentals. Educational Measurements for the Class Teacher, No. 9. New York: Board of Education, 1929. Pp. 16.
A brief treatment of diagnostic and remedial procedures.

38. OSBURN, W. J.
Corrective Arithmetic, Volume II. Boston: Houghton Mifflin Co., 1929. Pp. vi+280.
An addition to the author's earlier book of the same title. Treats problem-solving and several phases of intermediate and advanced arithmetic. Some new research studies reported.

39. OSBURN, W. J.
"Estimating the Difficulty of Exercises in Common Fractions by Job Analysis," *Educational Research Bulletin* (Ohio State University), VIII (January 9, 1929), 12–14.
Proposes an analysis of the elements in the solution of examples as a rough measure of difficulty to be used where standardization on the basis of difficulty is impossible.

40. OSBURN, W. J.
"Arithmetic Drill," *Educational Research Bulletin* (Ohio State University), VIII (February 20, 1929), 73–75.
A critical discussion of drill materials, chiefly those prepared by Washburne.

41. PERRY, G. C.
Mathamerica. Chicago: Markilo Co., 1929. Pp. 44.
A rather completely developed number system based on twelve digits instead of ten fully explained and illustrated.

42. POWER, LEONARD.
What Six Thousand Pupils Know about Arithmetic Fundamentals. Research Monograph No. 1. Dallas, Texas: Dallas Public Schools, 1929. Pp. 52.
An interpretation of the results of the Texas Diagnostic Arithmetic Test given to one thousand pupils in each half-grade from the low fifth grade through the high seventh grade. Deals with whole numbers and fractions.

43. SANGREN, PAUL V.
"The Need for More Adequate Measurements of Achievement in Arithmetic," *Mathematics Teacher*, XXII (January, 1929), 1–13.
A critical discussion of various types of arithmetic tests.

44. SMITH, ELSIE WARDLEY.
"Mental Confusion in Arithmetic," *Forum of Education*, VII (November, 1929), 211–26.
A unique study of the mental processes of students in an English training college in solving arithmetic problems. Students rated the degree of their mental clearness or confusion according to a prepared scale. The ratings are accompanied by many concrete illustrations of the nature of the confusion.

45. SOTH, M. R.
"A Study of a Pupil Retarded in Arithmetic," *Elementary School Journal*, XXIX (February, 1929), 439–42.
Describes the instruction given to a seventh-grade pupil retarded in arithmetic. Presents six conclusions relating to remedial work in arithmetic.

46. STEEL, H. J.
"Time Activity Analysis Technique Applied to the Supervision of Arithmetic," *Scientific Method in Supervision*, pp. 133–44. Second Yearbook of the National Conference of Supervisors and Directors of Instruction. New York: Teachers College, Columbia University, 1929.
A study of the time devoted by ninety-seven teachers during one week to various activities in arithmetic. Shows emphasis on various aspects of teaching. Illustrates a method of objectifying the work of the supervisor.

47. STEVENS, LOU BELLE.
"A Supervisor of Arithmetic Sketches a Typical Day's Work," *Journal of Educational Method*, VIII (January, 1929), 220–25.
A detailed account of a supervisor's observations of work in arithmetic during one day.

48. VAN WAGENEN, M. J.
"Arithmetic: Fundamental Operations and Ability To Solve Problems," *Comparative Pupil Achievement in Rural, Town, and City Schools*, pp. 49–60. Minneapolis, Minnesota: University of Minnesota Press, 1929.
Shows superiority of city pupils over rural pupils in arithmetic. Finds boys superior to girls in problem-solving. Also finds that eighth-grade pupils in each type of school surpass seventh-grade pupils of same mental age in problem-solving.

49. WATERSON, C. E., and UNRUH, H. B.
"A Critical Study of Errors in Addition Combinations," *University of Kansas Bulletin of Education*, II (February, 1929), 19–21.
An analysis of the errors made by pupils in Grades IV, V, and VI in a test in addition. An abstract of a thesis.

50. WHEAT, HARRY GROVE.
The Relative Merits of Conventional and Imaginative Types of Problems in Arithmetic. Teachers College Contributions to Education, No. 359. New York: Teachers College, Columbia University, 1929. Pp. 124.
Finds little difference between responses to the conventional type of problems and responses to the imaginative type. Results analyzed in various ways.

51. WILSON, GUY M.
"Promise and Performance in Arithmetic Drill Service," *Journal of Educational Research*, XIX (March, 1929), 169–76.
Compares the claims made by the author of a set of drill materials with the results of a detailed analysis of the materials. Finds great discrepancy between what is claimed and what is provided. Maintains that an author should make and publish an analysis of his drill materials.

52. WILSON, W. K., and ASHBAUGH, E. J.
"Achievement in Rural and Consolidated Schools," *Educational Research Bulletin* (Ohio State University), VIII (November 6, 1929), 358–63.
Finds small but persistent superiority of consolidated schools in arithmetic as compared with rural non-consolidated schools.

The writer will make no attempt to give a detailed summary of the fifty-two studies included in the preceding bibliography. It is interesting, however, to note certain general characteristics of the contributions to the literature on arithmetic in 1929. The topic treated most frequently is diagnostic and remedial teaching, eleven studies relating to this topic. These eleven studies show a considerable amount of variation in treatment. Brownell (5)[1] presents a discussion of the general nature of remedial instruction. A study which illustrates an application of Brownell's view of remedial work is reported by Gabbert (19). Descoeudres (17) gives an extended discussion of the application of diagnostic and remedial treatment to subnormal children. Waterson and Unruh (49) have made a critical study of errors made by pupils in Grades IV, V, and VI in written tests involving addition combinations. Osburn (38) has made a general contribution to diagnostic procedure in *Corrective Arithmetic*, Volume II. This book is somewhat too broad in scope, however, to be described by the terms "diagnostic" and "remedial." The most comprehensive study involving diagnostic and remedial work is reported by Lazar (29), who has made an investigation of methods of diagnosing pupil difficulties and of using tests and remedial measures. The report, which contains much new material, is a very substantial contribution and is worth careful study.

Seven studies deal with problem-solving. Four of the seven are rather elaborate projects. Bowman (4) has tried to determine the best means of motivating thinking on the part of pupils in solving arithmetic problems. Hanna (23) has made a study of three methods of solving problems and reports a considerable body of data from an experiment on problem-solving extending over a period of six weeks. Monroe (35) has followed up a previous investigation of the nature of pupils' mental processes in solving problems. His major purpose

[1] Numbers in parentheses refer to the preceding bibliography.

was to discover the extent to which pupils use reason or apply habitual, set methods in the solution of problems. Wheat (50) is chiefly concerned with materials for problem-solving and finds little difference between completely stated imaginative situations and formal statements of abstract problems so far as pupils' responses are concerned.

Three studies relate to the specific problem of curriculum construction. Of these, the one by Bowden (3) is the most elaborate although its elaborateness must not be mistaken for soundness of procedure. It is an excellent example of a study which is scientific only in its superficial characteristics.

Ten studies deal with aspects of supervision or methods, including drill. Most of these studies are brief, and only a few of them are experimental. In fact, the absence of experimental studies dealing with methods and supervision should be cause for considerable concern among those who are interested in securing improvement in the teaching of arithmetic.

The total number of studies in the bibliography for 1929 would have been somewhat greater if several studies had not been held for use in the yearbook on arithmetic of the National Society for the Study of Education which was published in February, 1930.

A COMMON DENOMINATOR FOR TEST SCORES

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In a recent issue of the *Elementary School Journal* appeared an article[1] describing briefly some uses that can be made of the sigma index score as a standard measuring unit. The purpose of the present article is to give full indorsement to the use of this statistical device and to attempt an explanation of its merits in measuring instructional outcomes.

It is generally conceded that mental age and achievement age mean different things in different tests. Franzen concluded that "a child may have a mental age of 14 and a reading age of 12 and an arithmetic age of 13 and still he may have done exactly as well on the arithmetic test and on the reading test as he has done on the intelligence test provided that the three tests have different correlations with age."[2] Wilson also contends "that mental or educational age is often a misleading unit for use in comparing an individual's score on one test with his score on another test."[3]

For this reason a unit of measurement that will satisfactorily compare a pupil's score on one test with his score on another test must be employed. The sigma index score, which is the standard score plus a constant, is the reasonable measuring unit. Franzen and Hanlon furnish an interesting description of its use in a program of measurement:

> For each test for each age we have called the average 100 on our sigma index scale. Each variability for each test for each age is called twenty sigma index units. Our measure of variability is sigma. To have a sigma index of 80 on any one test for any one age means that one is one sigma below the average. To have

[1] J. T. Worlton, "The Sigma Index Score as a Standard Measuring Unit," *Elementary School Journal*, XXX (January, 1930), 354–62.

[2] Raymond Franzen, "Statistical Issues," *Journal of Educational Psychology*, XV (September, 1924), 374.

[3] G. M. Wilson, "Standard Deviation versus Age as a Score Unit," *Journal of Educational Research*, XIII (March, 1926), 189.

80 on two tests means that the individual is as good in the one as he is in the other. To have a sigma index of 100 on a test means that one is average for that age on that test. To have a sigma index of 140 on a test means that one is two sigmas above the average or very advanced for that age. 0 means nothing at all of the ability. Therefore, 100 means average for one's group and below or above that means proportionate retardation and acceleration, respectively.[1]

In other words, a standard score of 0 is called 100, a standard score of +1 is called 120, a standard score of −1 is called 80, and so on from 0 to 200. In this way all scores are made positive numbers, and the sigma index score represents the percentage which the pupil's ability is of the average ability of pupils of the same chronological age. The formula for securing the sigma index score is as follows:

$$\text{Sigma index score} = 100 + \frac{X - M}{S.D.}\,20$$

X is the pupil's crude score; M is the mean of the crude scores for the age group under consideration; and $S.D.$ is the standard deviation of the crude scores for the age group.

It is clearly seen that the standard score is modified to become the sigma index score. The standard score itself is an outgrowth of the standard measure first used by Galton and, as it is used today, embodies practically the original principles.[2] The mean has been substituted for the median and the standard deviation for the quartile deviation, so that the measure is one of deviation expressed in terms of the standard deviation.

Table I shows the crude scores obtained in the Sangren-Woody Reading Test, Form A, and the Otis Classification Test, Part II, Form B, by twenty-five pupils whose chronological ages range from eleven years to eleven years and eleven months. Pupil 1, who has a sigma index score in intelligence of 142 and a sigma index score in reading of 151, has an achievement in reading 9 points above his intelligence score. His crude score in reading is 62.49 points above the mean. His standard score in reading (+2.56) indicates that his crude score is 2.56 times the sigma of the group above the mean of

[1] R. H. Franzen and W. H. Hanlon, *The Program of Measurement in Contra Costa County*, p. 5. Martinez, California: W. H. Hanlon, 1923.

[2] Truman L. Kelley, *Statistical Method*, p. 114. New York: Macmillan Co., 1923.

the group. By consulting any table to find the fractional part of the total area which lies under the normal probability curve, we find that 49.48 per cent of the cases fall between the mean and +2.56 S.D. Accordingly, 0.52 per cent of the cases (50 per cent minus 49.48 per cent) must lie above 136 in order to fill out the 50 per cent of the

TABLE I

CRUDE SCORES AND SIGMA INDEX SCORES IN INTELLIGENCE AND IN READING OF TWENTY-FIVE PUPILS WITH CHRONOLOGICAL AGES FROM ELEVEN YEARS TO ELEVEN YEARS AND ELEVEN MONTHS

Pupil	Crude Score in Intelligence	Crude Score in Reading	Sigma Index Score in Intelligence	Sigma Index Score in Reading
1	60	136	142	151
2	57	85	137	109
3	56	103	136	124
4	55	103	134	124
5	52	89	129	113
6	42	92	113	115
7	42	91	113	114
8	42	120	113	138
9	42	74	113	100
10	36	55	103	85
11	39	59	108	88
12	38	55	107	85
13	36	81	103	106
14	35	64	102	92
15	35	78	102	104
16	26	76	87	102
17	25	61	85	90
18	24	72	84	99
19	22	83	80	108
20	21	74	79	100
21	19	53	76	83
22	17	38	72	71
23	15	35	69	68
24	14	45	67	77
25	12	29	65	63
Mean*	34.00	73.51	100.06	99.93
S.D.*	12.27	24.32	.....	.....

* The mean and the S.D. are based on the scores of forty-five pupils. In order to save space, the scores of only twenty-five pupils are given.

cases in the right half of the curve. In terms of "chance," there are 52 chances in 10,000, or less than 1 in 100, that this score will be exceeded. The standard score permits us to find an answer to the question: How many pupils of this boy's age can do as well as he?

The sigma index scores of Pupil 25 in intelligence and reading are approximately the same. In other words, this pupil has achieved as

much as he is able to achieve. His standard score in reading (−1.83) will show how many other pupils may be expected to do as poorly. His crude score is 1.83 times the sigma of the group below the mean of the group. On a probability basis, 46.64 per cent of the cases lie between the mean and −1.83 S.D. Then, 3.36 per cent of the cases must lie below the score of 29 in order to fill out the 50 per cent of the cases in the left half of the curve. In terms of "chance," there are 336 chances in 10,000, or slightly more than 3 in 100, that any score will fall below the score of Pupil 25.

Thus, every one of the twenty-five different cases can be analyzed. The standard score need not be given much consideration unless it is desirable to know something of the probabilities revealed by the scores. Whether a certain pupil is working at, above, or below his level of ability in a particular subject can be determined by making a direct comparison of his sigma index score in intelligence with his sigma index score in this subject. The sigma index score is a common denominator for all test scores of pupils in a certain age group. This unit of measurement offers the classroom teacher an opportunity to discover defects and to apply suitable remedial teaching procedures. It aids her in organizing the class work so that each pupil will be able to make the best progress. As a statistical device, it is reliable at any age or intelligence level.

THE COMPARATIVE LEGIBILITY AND SPEED OF MANUSCRIPT AND CURSIVE HANDWRITING

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It is the purpose of the study reported in this article to show, on the basis of objective measurements, the relative legibility and rate of production of two forms of handwriting, namely, manuscript writing and cursive writing. Measurements were made of specimens secured from pupils in Grades II–VI. Specimens of both types in Grade VI were secured from public schools in Winnetka, Illinois. Specimens of cursive writing in Grades II–V were secured from public schools in Kalamazoo, Michigan, and specimens of manuscript writing in Grades II–V were secured from the public school in Paw Paw, Michigan. The number of specimens of each form of writing which were read is as follows: Grade II, seventeen; Grade III, twenty; Grade IV, twenty-four; Grade V, eighteen; and Grade VI, thirty-six. While the data obtained from the study are not in themselves sufficient to warrant final conclusions, they are indicative of important differences between the two forms of writing, and they emphasize the need for further study.

The legibility of writing can be determined by the rapidity with which it can be read. Therefore, in order to determine the relative legibility of the two forms of writing, it was necessary to find some method by which the time required for the reading could be measured. A suitable method is difficult to devise because adult readers have learned to identify words without taking into consideration all the details. The method finally adopted was to make the reading so difficult that all the details of the words read must be utilized before the words could be identified. The reader was required to read the specimens as they appeared upside down in a mirror placed at the top of the page. This method made it possible to pronounce the words more rapidly than they could be comprehended. The reading was done orally to avoid omitting any words and to make it easier

to record the time, which was measured by means of a stop watch. The average time required to read one word was determined by dividing the number of seconds required to read the specimen of writing by the number of words contained therein. An equal distribution of training in mirror reading was secured by reading cursive and manuscript specimens alternately. The writer of this article was the reader.

In order that each specimen of writing might be different from the others and that the spelling might be correct, the following method was used. The second-grade children wrote lists of ten words taken from their spelling. Each child was given a different list to copy. The children in Grades III–V, inclusive, copied different passages from books. The sixth-grade children wrote their own compositions. It is very essential in an experiment of this type that the subject matter in the specimens be different. If the subject matter is the same, the comprehension of the specimens following the first one read will be unduly easy, and the reading rates will not represent accurately the legibility of the specimens. It was necessary to discard several of the specimens from Grade VI on account of similarity of subject matter. Misspelled words are also disturbing elements and may affect the reliability of the results. The manuscript writing was of the "print-script" type. Ordinary stub pens were used in most of the cases in which the specimens were written in ink.

Table I is a summary of the results obtained from the mirror reading. This table shows that there was a margin of superiority in the specimens of manuscript writing from all grades with the exception of Grade II, in which the time required to read a word in cursive writing was .02 of a second less than the time required to read a word in manuscript writing. The apparent superiority of the cursive writing in this grade may be explained by the fact that, because the specimens consisted of only ten words written in a column, the important factor of spacing was eliminated. Again, when a new feature is introduced into the curriculum, there is frequently a period in which some teachers are called on to give instruction before they themselves have gained mastery. The specimens read were gathered in the autumn, and the results might have been reversed had the specimens been secured in the following spring. The original data on

the reading of the specimens from Grade II, which are not given in this article, show great irregularity in the time required to read the specimens. In most cases the variations were caused by the difficulty experienced in identifying particular words. The data also show that there is much more rapid improvement in the ability to read manuscript writing than in the ability to read cursive writing, and it is possible—probable, in fact—that, if three or four more sets of papers had been read, the margin would have been reversed in favor of the manuscript writing.

TABLE I

RELATIVE LEGIBILITY OF CURSIVE AND MANUSCRIPT WRITING DETERMINED BY READING SPECIMENS OF EACH IN A MIRROR

GRADE*	CURSIVE WRITING			MANUSCRIPT WRITING		
	Average Number of Seconds Required To Read Each Specimen	Average Number of Words in Each Specimen	Average Number of Seconds Required To Read Each Word	Average Number of Seconds Required To Read Each Specimen	Average Number of Words in Each Specimen	Average Number of Seconds Required To Read Each Word
II	6.57	10.00	0.66	6.82	10.00	0.68
III	39.00	46.40	0.84	43.84	56.73	0.77
IV	50.89	50.87	1.00	64.41	83.54	0.77
V	50.48	47.66	1.06	75.87	85.83	0.88
VI	91.35	108.71	0.84	96.85	141.28	0.69
VI	89.72	99.33	0.90	65.67	97.22	0.68
VI	114.93	127.50	0.90	62.68	92.75	0.68
VI	90.33	91.83	0.98	64.12	85.17	0.75

* In Grade VI specimens were secured from four schools.

The specimens from Grade VI presented a far more normal situation than the others because they were original compositions. It will be observed, however, that the data for this grade agree very closely with those for the lower grades. This fact apparently confirms the conclusion which the data suggest, namely, that manuscript writing produced by elementary-school pupils is more legible than cursive writing produced by elementary-school pupils.

It should be stated, in concluding the discussion of the data secured from the mirror reading, that the specimens of both types of handwriting were of very fine quality. Experience in the reading of the specimens indicates that the legibility of cursive writing is af-

fected to a greater extent by deterioration of quality than is the legibility of manuscript writing.

In the reading of words which had to be "spelled out," the manuscript writing offered less resistance than did the cursive writing. This result appeared to be due to the fact that, since in manuscript writing the letters are written separately, the mutilation of one letter did not seem to affect the other letters in the word to as great a degree as in cursive writing. Economy of line space was another potent factor in the ease of reading manuscript writing. Because more words can be written on a line in manuscript writing than in cursive writing, more reading is done during each fixation of the eye. The economy of line space effected in manuscript writing appeared to reduce the tendency of the children to crowd their writing.

Legibility was also measured by means of a flash-card test. A limited number of combinations of consonants were written on a narrow strip of paper and passed through a tachistoscope. Such combinations as "hpfs" were used, and the cursive writing was alternated with the manuscript writing in order to insure an even distribution of training through practice. Since the letters did not form a syllable, it was necessary to distinguish all four letters in each group. The number of flashes required to read the several combinations is taken inversely as the index of their legibility. This test, as indicated in Table II, gave the manuscript writing a significant margin of legibility, the difference between the average number of flashes required to read the manuscript writing and the average number required to read the cursive writing being 1.43. The average number of flashes required to read the manuscript writing is 71.4 per cent of the average number of flashes required to read the cursive writing.

The results of the two tests—mirror reading and flash-card exposures—show that manuscript writing possesses a large margin of legibility.

The rate of writing is expressed in the number of letters written in one minute. Table III shows the rate of writing of pupils in each grade when using the two types of writing compared with the grade norms established by the Ayres Handwriting Scale. In Grades II–V, inclusive, the children wrote the names of the first five numerals. The fact that the children who wrote the cursive specimens were not

familiar with the test no doubt accounts for their lower scores. It will be noted, however, that, except in Grade II, the scores of the manuscript writers exceed the grade norms. The children in Grade VI wrote sentences. This comparison apparently shows that in rate

TABLE II

RELATIVE LEGIBILITY OF CURSIVE AND MANUSCRIPT WRITING DETERMINED BY MEANS OF NUMBER OF FLASHES REQUIRED TO READ COMBINATIONS OF CONSONANTS

Consonant Combination	Number of Flashes Required	Consonant Combination	Number of Flashes Required
Cursive writing:		Manuscript writing:	
hpfs	4	fpsh	1
qmxk	7	mgkx	2
bhvl	2	lbvh	6
jmcp	5	cjmp	2
hnkm	5	kmhn	5
pwbj	8	wjng	5
rdzs	4	gykz	4
Average	5	Average	3.57

TABLE III

RATE OF WRITING OF PUPILS IN GRADES II–VI WHEN USING CURSIVE WRITING AND WHEN USING MANUSCRIPT WRITING COMPARED WITH THE GRADE NORMS

GRADE	NORM	CURSIVE WRITING		MANUSCRIPT WRITING		DIFFERENCE IN PERCENTAGES IN FAVOR OF MANUSCRIPT WRITING
		Number of Words Written in One Minute	Percentage Rate of Writing Is of Norm	Number of Words Written in One Minute	Percentage Rate of Writing Is of Norm	
II	38	19	50	24	63	13
III	42	30	71	44	105	34
IV	46	42	91	58	126	35
V	50	54	108	59	118	10
VI	54	63	117	58	107	−10

of production manuscript writing is more rapid than cursive writing in Grades II–V. The difference in rate between the cursive writing and the manuscript writing in Grade VI is not large enough to be significant except that it shows that manuscript writing no longer excels in speed. The conclusion that there is a sudden drop in rate

in Grade VI is not warranted because the specimens came from different schools and may merely show a difference in instruction. However, the results obtained from a recent study by Arthur I. Gates and Helen Brown[1] would indicate that the difference between the scores in Grade VI may be significant. Further study may be needed on this point.

Many interesting observations were made in the course of the study which do not bear directly on the two factors which were the subjects of investigation. In the literature concerning the movement to introduce manuscript writing, frequent mention is made of the interest and delight which children take in using that form. The writer also observed this enthusiasm. Regardless of the fact that some children, as a result of outside influence, were eager to do "real writing," genuine interest in the writing periods and pride in the appearance of written compositions were observed. All work written by teachers on the blackboard in Grade V, except during the writing period, was done in cursive writing in order to give the children a reading knowledge of the form in common use. They experienced no difficulty in reading this form.

A student in educational measurements went to the fifth-grade room for specimens of both forms of writing, not realizing that one group of children could be expected to produce but one form. As a matter of curiosity, the children were allowed to write specimens in both the manuscript and the cursive forms of writing. An inspection of the papers indicated that the children had lost little by using manuscript writing up to that time, even though cursive writing should be the ultimate choice. There was no specimen of cursive writing that was not legible. Of course, the children must have done some cursive writing outside of school, but the amount of practice secured in that way must have been small as manuscript writing was required in all school work and fifth-grade children do comparatively little writing outside of school. This experience would indicate that the transition from manuscript writing to cursive writing will probably be easy should such transition be found desirable.

During the writing periods in which manuscript writing is taught,

[1] Arthur I. Gates and Helen Brown, "Experimental Comparisons of Print-Script and Cursive Writing," *Journal of Educational Research*, XX (June, 1929), 1–14.

the first few minutes, which were formerly spent on movement drills, are spent on letter forms. With this exception, the procedure during the periods is much the same as that followed in teaching cursive writing, the objects of attention being good posture, proper holding of the pen, quality of line, and proper arrangement on the page.

There are values in teaching children to use manuscript writing which are apparent as the children develop. Manuscript writing lends itself to artistic treatment, and the children take pride in their written productions. Considerable use is made of the manuscript writing in the art work. In the business world frequent demands are made for the printing of such things as labels, identification slips, and records. It would appear that in adult life uses will be found for the manuscript writing learned in the elementary grades.

The results of the study may be briefly stated as follows:

1. In legibility manuscript writing had a significant margin of superiority as compared with cursive writing. This margin is due to the independence of the letters, good spacing between words, and economy in line space.

2. In rate of production manuscript writing exceeded the norms established for the grades studied, except Grade II. While considerable variation was shown in the rate of production of manuscript writing, there was a constant increase up to, though not inclusive of, Grade VI.

Educational Writings

REVIEWS AND BOOK NOTES

The financing of "state" schools.—School Revenue[1] by H. C. Morrison deals vigorously with "altogether the most formidable current problem in the maintenance of our system of popular education": "Is there money enough to support any such school system as Americans have conceived?" (P. v)

One may discuss a given subject as an authority in the field and as such carry conviction. Or one may approach a subject with a view to opening up the field and its implications, with all the weight of whatever authority one possesses. Professor Morrison does both.

To answer the query, Professor Morrison attempts "to arrive at some understanding of the basis of the school revenue in the financial organization of society, of the school system as an organic part of the fiscal organization of our form of the civil state, and of the school as an economic institution" (p. vi). While he hopes "that the book will be of substantial practical value to those who are charged with the executive and legislative control of the school system, to boards of education, school officers, and teachers, and to interested citizens, no attempt has been made to produce a handy collection of recipes for amateurs" (p. vi).

In the first chapter, Professor Morrison develops with relentless logic the thesis that "the state school . . . . is in essence a school established and maintained by government primarily for a *civic purpose*, that is, for the . . . . maintenance of civilization" (p. 13). The remainder of the book does three big things. It attempts to clear up the meaning of the citizenship school. It proves that we are abundantly able to support publicly this kind of school but, in Professor Morrison's opinion, a no more extensive one. It makes a strong case that we can support this school satisfactorily only on a state basis, toward which the author considers and hopes we are moving.

The chapter titles are not enlightening in isolation. Two chapters give points of view that cannot be duplicated elsewhere—chapter v, "Paying for What?" and chapter ix, "Equalization." The first clears up the purpose of the citizenship school, and the second shows the prerequisites of real equalization.

[1] Henry C. Morrison, *School Revenue*. Chicago: University of Chicago Press, 1930. Pp. x+242. $2.50.

Professor Morrison tries to clear up the meaning of the citizenship school in two ways. He first masses conclusive evidence from constitutions, statutes, and judicial decisions to show that public-school money "is intended to buy intelligent and well-trained citizenship and nothing else" (p. 85). He later makes a strong presentation to show that the purpose of the citizenship school includes "not only good government but progress in the welfare of the people and in social justice, upon which in the last analysis good government rests" (p. 97). From the purpose of the citizenship school he rules out preparation for college, university support, the so-called "accomplishments," assumption of the burden of the family school, vocational training, and "schemes of education instituted by irresponsible minorities or by amateurs in executive position" (p. 107).

With regard to our ability to finance education, Professor Morrison says, "No economic structure which it is possible to conceive is capable of supporting whatever kind of school system popular fancy may desire, and it is extremely doubtful that either here or elsewhere could what would be essentially a universal private school be paid for" (p. 95). "There is productive capacity enough. The validity of the financial structure of society rests very largely upon the free school itself, both because the school enrolment is by far the most extensive guaranty against a great labor surplus with consequent low wages and low purchasing power, and because the school system has within it the capacity to generate the intelligence and character upon which still higher and better distributed national income depends" (pp. 68–69). "The school system is in the long run its own support, and there is no other" (p. 68). This treatment throughout the text of the public school as a factor in our economic life deserves special commendation.

The last three chapters constitute a powerful presentation for complete state support of the citizenship school. Chapter viii shows that the well-known inequalities in both resources and actual and possible school expenditures are "singularly out of harmony with the only purpose for which the laying of school taxes has ever been justified, namely, the training of citizens" (p. 165). Chapter ix develops the thesis that equalization of the citizenship opportunity for all children is not possible except through the gradual evolution of large fiscal units, such as the city, county, and state. Chapter x is a hopeful presentation of a distinct trend toward making the state the fiscal and administrative unit for the citizenship school. Its force may be judged by Professor Morrison's view of the "educative" effect of local responsibility as advocated by the adherents of state school aid:

> A priorists frequently hold that reliance upon the local district for support and management must have a wonderfully educative effect on the local electorate and on the amateurs whom the people choose to manage their schools. Granting the contention for the moment, it may well be challenged with an a priori question. Do the schools which are required by the self-governing institutions of America exist for the purpose of educating the present voters and school boards, or for the purpose of educating the children? [P. 233]

One may differ with Professor Morrison's advanced positions, as, for example, when he seems to advocate raising revenues for local purposes by income taxes or when he brushes aside the most advanced state-aid distributive plans, but one has to respect the strength and ingenuity of the arguments with which he makes his points. There needs to be an extended examination of the relation of his views to such state-aid plans. Both sides have strong reasons for their views, and both will have their followers until such a critical examination is made.

In his treatment Dr. Morrison incorporates many stimulating and often startling ideas, such as the following.

> That every child has a right to education is a principle of elementary justice which has long been recognized among civilized peoples. It does not follow that every child has a natural right to expenditure of public funds on his schooling [p. 71].
>
> Why not develop a genuine school system calculated to produce what is intended and see what will happen? It has never seriously been tried yet [p. 85].
>
> That form of subvention which stipulates that no payments will be made to the local district unless standards are maintained is tantamount to bribery of a minor civil division by the sovereign [p. 195].
>
> Not infrequently the high-school building in particular is an expensive pupils' and teachers' club rather than a schoolhouse [p. 186].
>
> There is a great deal of false sentiment wasted on the subject of free university training. In effect, faculties and not the taxpayer pay the bill in inadequate salaries and sweating; the institutions pay it in the degradation of the presidential office to mendicancy and to political intrigue before state legislatures [p. 100].

The book is a distinct contribution to educational finance because it pushes the frontier of theory in this field much farther out and lights up some hitherto dark places. It is not, however, light reading for anyone, particularly for the amateurs referred to several times by the author. It includes such sound theorizing and such important factual materials strikingly presented that its usefulness is assured. It ought to become an integral part of the fundamental content of the thinking of every educational statesman, of every real student of educational administration, and of every local school administrator who aspires to more than provincialism. It is a book which all such will wish to read and re-read and to which they will turn again and again. It will probably be used for years in the strong courses in school finance throughout the country.

CARTER ALEXANDER and I. O. FRISWOLD

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An objective study in supervision.—During the last ten or fifteen years supervision has been developing a large number of devices and techniques for carrying on its functions. These have been derived from experience and refined by practical trial, and they stand the test of ordinary demands. It is only within the last few years, however, that objective methods have been applied in deriving procedures, finding facts, or attacking any of the other problems in the field.

A recent study[1] of the organization of supervision, which supplies an unusually large amount of objective data and an evaluation of techniques, is therefore welcome.

The author sets forth the two phases of his problem in the first chapter: "This investigation seeks to inventory practices in the organization and administration of supervision in cities ranging in size from 10,000 to 20,000, and to evaluate these practices in terms of the judgments of supervisory officers, teachers, and educational specialists" (p. 5). The first phase of the problem is treated in Part I, "The Organization for Supervision"; the second phase in Part II, "Supervisory Activities and Devices."

The techniques for securing data were those of the questionnaire and the interview. There is an admirable statement of the many factors which affect this type of research, and considerable ingenuity is shown in eliminating the dangers thereof. Further, a sharp distinction is made between the description of a supervisory organization as it appears on paper and the actual functioning of that organization.

The study shows, as do similar ones, that there is enormous variation in supervisory practices. Cities of identically the same size and conditions are found with the maximum number of supervisors or with no supervisors at all.

The data on the training and experience of the various officers engaged in supervision are illuminating. The special supervisor usually undertakes her work with no previous educational experience. More than one-half of the special supervisors are trained in private schools and normal schools. Not a single general educational publication was reported as included in the reading of as many as 5 per cent of any of the groups of special supervisors. A journal devoted to elementary education and ranking second in the lists of journals read by elementary-school principals and superintendents was reported as read by only three special supervisors. On the other hand, no general supervisory officers reported the regular reading of any of the special journals. These facts show why special supervision is in an unorganized and unsatisfactory condition the country over. They should be studied in conjunction with the data supplied in the Third Yearbook of the Department of Supervisors and Directors of Instruction of the National Education Association.

Superintendents in the small cities, though chiefly concerned with elementary schools, have most frequently been high-school principals. Men and women elementary-school principals differ in professional training and experience in a most astounding manner. They do not seem to have achieved their present positions by the same routes.

The author's summary description of the situation would seem to be of great importance: "In view of these facts it seems that the typical elementary-school

[1] Ernest O. Melby, *A Critical Study of the Existing Organization and Administration of Supervision*. Northwestern University Contributions to Education, School of Education Series. Bloomington, Illinois: Public School Publishing Co., 1929. Pp. xiv+158. $1.50.

system is being supervised by a relatively complex organization, the members of which bring to their positions either training or experience, or both, which is often inadequate or ill adapted to the needs of their work" (p. 43). It should be noted here that the author's data do not relate to so-called "general" supervisors.

Little comment is necessary on Part II, "Supervisory Activities and Devices." The evaluations made by various teachers, specialists, and others are quite in line with those in previous studies and supply valuable corroboration.

The only criticism of the study grows out of one of its strong points. So many statistical data and so many tables are presented that the casual reader is almost overwhelmed. The study as a whole is clearly an important and valuable contribution to the objective background which is being built up in the field. It suggests a number of similar and related studies which advanced students might well undertake.

W. H. BURTON

The guidance movement.—Beginning approximately a quarter of a century ago, the effort to give vocational guidance to pupils has experienced a steady expansion until what was a very specialized undertaking unrelated to the work of the school has now permeated public schools all over the United States and has affected particularly the organization and functions of the junior high school. The functions of guidance have been expanded so widely that now practically every phase of life is included in the program of those concerned with the movement. The extent of guidance in public schools is described in a book[1] by Professor Arthur J. Jones, which is concerned chiefly with the educational and vocational guidance possible during the public-school period.

Professor Jones has presented his material in four parts. In the first part, "The Meaning, Purpose, and Aim of Guidance," he tries to arrive at an acceptable definition of the term "guidance" which will be broad enough to permit a comprehensive program but not too broad to permit specific formulation of techniques of guidance. In Part II, "Methods of Investigation in Guidance," the author discusses the general methods of research which have been employed, the use of school records for guidance purposes, the value of flexibility in school organization as it affects guidance, the exploratory courses which have been tried at the junior high school level, and many forms of testing, including the work of the psychologist, the psychiatrist, and others concerned with predicting the capacities of individuals. In Part III, "Methods of Guiding Students," the major topics treated are methods of guidance with relation to work in school and college, to the selection of vocations, and to moral, social, and leisure-time activities. This part also includes a rather detailed account of a number of plans of organizing the guidance work of public schools. Part IV, "The Results of Guidance," is a brief section of seven pages, which leads one to wonder

[1] Arthur J. Jones, *Principles of Guidance.* New York: McGraw-Hill Book Co., Inc., 1930. Pp. xxiv+386. $3.00.

whether the results are so meager that no more space is needed to describe them or whether the author thinks of results in terms of "the future of guidance" rather than in terms of the effects of guidance.

For one who wishes to be informed with regard to the program of those concerned with guidance, the book is an excellent statement. It gives an adequate picture of the many methods which have been used to guide pupils and of the ramifications of the guidance movement. To one who wishes a critical, unbiased evaluation of the guidance movement, the book will be a distinct disappointment.

After reading the section dealing with the meaning of guidance, one is in considerable doubt as to which is the more comprehensive term—"guidance" or "education." Such statements as the following are made. "Guidance involves personal help that is designed to assist a person to go somewhere or to do something" (p. 21). "Education is, then, the process by which these necessary changes are made in individuals" (p. 22). "The best description of the teacher, then, is that he is the guide, the personal conductor, in the process of learning. The work of the teacher is primarily that of guidance" (p. 26). Admitting the very general character of the preceding statements, the author attempts to define guidance in a more specialized manner and arrives at the following definition. "We might define this special guidance as any help that is given to an individual that will enable him to make an intelligent choice at the time of a crisis in his life" (p. 28). Professor Jones defines guidance as a process which he would apply to every phase of a pupil's life. The various forms of guidance he would classify under the following headings: "(1) vocational guidance; (2) course, curriculum, and school guidance; (3) civic and moral guidance; (4) leisure time, avocational, or cultural guidance; (5) social guidance; (6) leadership guidance" (p. 30). In view of this conception of the guidance movement, one wonders what phase of education could not be classified under it.

The book contains a large amount of material more or less closely related to vocational guidance, much of which is common knowledge to school workers regardless of whether or not they have been identified with the guidance movement. The impression of the reviewer is that the techniques of guidance as presented by Professor Jones go little farther than the common-sense advice which could be given by any properly trained school administrator or teacher. In many cases the only innovation in technique contributed by the book seems to be the use of a new name. This statement is true even with regard to such chapters as those dealing with the work of the psychiatrist and the visiting teacher. For example, on pages 184 and 185 a detailed illustration is given of the case technique as applied to the guidance of pupils. The case study cited is a good illustration of the application of a common-sense method of treatment by a teacher who apparently was intelligent and keen in sensing a social situation. However, all that the study represents is a description of the treatment of one case, and one looks in vain for any scientific generalization which could be used with assurance in treating the next case which might appear. The book is

entitled *Principles of Guidance*, but, if one accepts the word "principles" in its scientific sense, namely, a body of generalizations supported by specific objective facts, it is certainly true that the number of sound principles relating to the essential elements of guidance is very small. The principal body of generalizations which the book contains relates to methods of organizing the guidance program. These generalizations certainly should not be confused with scientific principles relating to actual guidance of children.

The book contains no specific evidence of the results of the guidance programs proposed. For example, the author states that "we have only to look around us and see the conditions that confront our friends and ourselves to be convinced that human energy is wasted, lives are misspent, misery and disaster result from lack of direction and from unwise selection of occupation, of recreation, of companions, and of educational opportunities" (p. 3). However, it is merely the author's hypothesis that the things mentioned result from "lack of direction," etc. Persons outside the guidance movement will not be convinced of the value of the programs described until some objective evidence of the results of guidance are presented. In view of this fact, one would expect those concerned with guidance to give more attention to research than to discussions of desirable methods. There is no reason why the results of guidance cannot be tested in experimental fashion by selecting two groups of cases, one of which will be given all the benefits of an elaborate guidance program and the other of which will be given no guidance. If the adjustments made by these cases to life-situations are followed for a decade or more, the investigator will have an objective basis for evaluating guidance. Until this type of evidence is available, it will be very difficult to convince those who are not already committed to a guidance program that guidance activities should be a large part of the work of the public schools. The following statement cannot be accepted in lieu of objective evidence of the value of guidance. "The center and life of the junior high school is guidance. The fundamental purpose of this new institution is expressed in guidance terms—exploration, experimentation, tryout, provisional choice. The junior high school is the place where definite attempt is made to assist students in making important choices. The entire organization gets its motive and its plan from guidance. It is so with child-accounting, with tests and measurements, especially the diagnostic testing program. Diagnosis and guidance are inseparable; remedial work is but the result of a guidance program" (p. 369). If the fundamental purpose of the junior high school is guidance, it is so only by definition. The statement that "the entire organization gets its motive and its plan from guidance" is true only when one expands the definition of guidance to include all of education, and, if this is done, there is no particular reason for changing to the term "guidance." The statement that remedial work is but the result of a guidance program is not supported by the facts. A large part of the remedial work carried on in the public schools has developed entirely apart from the guidance movement. Such statements as are made in the last chapter of the book will stimulate the guidance movement not to become scientific but rather

to become somewhat complacent with its present achievements and to center its attention primarily on the kind of organization which is desirable in order to give the movement a still larger place in public education.

The reviewer's attitude is to be interpreted not as a criticism of the attempt to provide guidance but rather as an expression of the view that the guidance movement is still resting on a very meager body of scientific data and that the present generation of workers in the field would be far wiser to turn their attention to research than to general organization or to applications of the guidance program. The foregoing suggestion with regard to research is particularly appropriate when the guidance program is expanded to include moral guidance, leisure-time guidance, etc. From the observations which the reviewer has made of teachers in the junior high school, he is convinced that many of them need leisure-time guidance far more than do their pupils. If guidance is nothing more than advice by teachers, the reviewer sees little reason for dignifying it into an elaborate program, and, until more scientific data relating to it are available, little more than advice can be given. The publishers of the book state on the cover sheet that "it should serve as a basic text in the Principles of Guidance now so commonly suggested as part of the training of counselors." The book will undoubtedly be profitable reading for any person in the field of education. It is certainly worth four or five hours of one's time, but, as the basis for a course of instruction, it seems decidedly lacking in adequate substance.

G. T. BUSWELL

Educational psychology in terms of purposive behavior.—It is of interest in examining a new book in a given field to make comparisons with a more or less standard treatment of the subject. Probably the most widely used educational psychology for beginners during the past five or six years has been Gates's *Psychology for Students of Education*. Certain comparisons between Gates's textbook and Collings and Wilson's new book[1] may be made.

The two books have essentially similar treatments of the physiological basis of human behavior (receiving, connecting, and reacting mechanisms), convergence and diffusion of nervous impulse, conditioned mechanisms and reflexes, and laws of learning. Collings and Wilson use a somewhat different terminology in discussing certain topics—drive instead of instinct, law of drive instead of law of readiness and effect, and law of response instead of law of exercise. They make a rather radical departure in including a series of chapters dealing with the types of children's activities (excursion, communication, construction, play, and skill) and guidance of such activities (purposing, planning, execution, and judging). Detailed stenographic reports of classroom lessons are presented to illustrate the topics under consideration. This series of chapters seems more methodological than psychological in character, although it is often difficult for

[1] Ellsworth Collings and Milbourne O. Wilson, *Psychology for Teachers:* Purposive Behavior, the Foundation of Learning. New York: Charles Scribner's Sons, 1930. Pp. xviii+474. $2.00.

textbook writers and teachers to determine where psychology ends and method begins. Another series of chapters deals with score cards and scales developed in large part by the authors for the measurement of children's behavior. The impression left by the chapters on measurement is that the generally accepted tests of intelligence, aptitude, and achievement have been inadequately treated and in some cases entirely neglected by the authors.

The interest of the senior author in the project method of teaching is apparent in some of the discussions. The emphasis on purposive behavior as a means of education is certainly justified, although the reader finds the use of the term "purposive behavior" in twenty of the twenty-four chapter titles rather monotonous. The chief contribution of the book is in the numerous points of view of other writers, the helpful concrete illustrations, the summaries of pertinent experiments, and the stenographic reports of children's activities. It may be suggested that the book seems as well adapted to use in methods courses as to use in courses in educational psychology.

CARTER V. GOOD

MIAMI UNIVERSITY

A book on child psychology for parents and teachers.—"Three types of information about children are especially useful to teachers and parents. The first is knowledge of methods of studying children; the second is knowledge of the kind of behavior which may be expected of children in each of the overlapping stages of development; the third is knowledge of how this behavior is acquired and modified" (p. 1). With this statement a book[1] on child study is introduced. The author is successful in presenting each of the three types of information, and the book which results is a commendable contribution to the popular literature on child study.

The life of the child from birth to maturity is treated in six major periods: (1) the prenatal period; (2) the first two years of life; (3) the late preschool period, or the next three years of life; (4) the primary-school period, covering chiefly the first three grades of the elementary school; (5) the preadolescent years; and (6) the period from adolescence to maturity. In the Preface the author criticizes the common procedure in textbooks on child study of dealing with the various characteristics of child life in longitudinal rather than cross-sectional fashion. Her position with regard to this matter is well stated in the following quotation.

> In most of these books the material is organized around topics rather than around stages of development—a fact which makes application to a child of a given age difficult. Parents and teachers deal with children of a certain age, not with topics such as imagination, memory, and reasoning. They find difficulty in searching through chapter after chapter for suggestions that refer to children of the age in which they are interested. They can, however, easily apply to their child chapters bringing together the facts thus far found to be true of a child as a whole during each period of development.

[1] Ruth Strang, *An Introduction to Child Study*. New York: Macmillan Co., 1930. Pp. xiv+550. $2.75.

Physical, mental, social, and moral characteristics all enter into the ordinary activities of children and accordingly should not be sifted out and put into separate chapters, but should rather be built into unified pictures of children at the various stages of growth [p. v].

The distinction between cross-sectional and longitudinal treatment is aptly made in terms of the readers for whom the book is intended. For the scientific student of child psychology the longitudinal method possesses marked advantages in that it emphasizes the continuity of mental traits and also the lack of any sharp breaks from period to period. However, the popular reader and the majority of teachers are much more concerned with particular sections of child life and will undoubtedly be helped more by a book organized on the cross-sectional plan.

The book treats many specific problems of child welfare. Because of the large number of problems dealt with, the treatment is frequently brief and at points somewhat more positive than the evidence available would warrant. This method of treatment, however, is frequently considered necessary in a popular book. Some of the most valuable parts of the book are those which summarize the present knowledge relating to the behavior of normal children. These parts of the book have frankly disregarded the traditional beliefs which are not supported by objective, scientific evidence, and the result is a stimulating body of accurate information which is useful to both parents and teachers. The sections of the book which deal with learning at the various stages of development will be more valuable to parents than to teachers since they are so elementary that most teachers will probably have come in contact with similar material in their preparation for teaching.

A unique feature of the book is the inclusion of a series of objective tests to be used in study groups. A teacher's manual is supplied giving the answers to the questions in a form not easily available to students. Another commendable feature of the book is the series of well-selected bibliographical references at the ends of the various chapters. The model daily schedules which are provided for the various stages of development are probably not as useful as the author intended them to be. They reveal very much more of an academic contact with children than of a practical home contact, and the number of homes in which such schedules could be followed with close approximation would certainly be very small.

The book represents one of the most successful attempts to supply a body of accurate information relating to child growth and welfare for parents and teachers. It will be particularly useful in extension courses for parents.

G. T. BUSWELL

The democratizing of a school system.—At the time of the World War the Prussian school system was a stock example of autocratic control in education. With the change in form of government in Germany the schools have passed through a period of experimentation which probably has no parallel in the history of the world, for during the last decade experiments have been conducted

ranging from the extremes of conservatism to the extremes of radicalism. An excellent account of the educational movements in Germany since the war is presented in a book[1] by Thomas Alexander and Beryl Parker.

The book begins with a description of the effect of the German Revolution on the extra-school activities of young people. The German youth movement, resulting in part in wandering bands of students for whom special hotels have been provided and in the use of school journeys for education outside of schoolrooms, is described and interpreted in great detail. Chapters are devoted to the development of sports and recreation and to the creative arts. Part II, "Vanguard Schools," is an account of six major types of experimentation in which the progressive spirit of the German republic as shown in the new type of schools is illustrated. Those who are concerned with experiments in progressive education in America will find much of interest in the descriptions of certain of the schools referred to as well as in the discussions of the development of community schools and folk colleges. Part III, "Status of the New Education," discusses the curriculum in both the elementary school and the secondary school, the selection of pupils for different types of education, and the changes in teacher-training. The final chapter of the book summarizes the major developments in German education, some of which are of particular interest to school people in America. Five of these may be described briefly. First, there has been a marked enlargement in educational opportunity for all types of German youth. "It is literally true now that a pupil in Germany can proceed from the kindergarten to the university without cost, provided he is fortunate enough to be well equipped mentally. The German slogan is 'An open road for the capable'" (p. 367). Second, there is increasing emphasis on the social, emotional, and physical qualities of youth as contrasted with the strictly intellectual qualities. This emphasis has produced a different grouping of pupils and has broken down in a considerable measure the actual caste system which characterized the German school system before the war. Third, there is greater emphasis on the growth of individual pupils, the doctrine of freedom being emphasized in a large measure. Fourth, the greater interest in the individual has resulted in the integration of subject matter around units of interest and in the adoption of more active methods of instruction designed to meet the natural dispositions of children. "Pupil activity has displaced teacher dominance and brought a new spirit of comradeship into the schoolroom" (p. 368). Fifth, there is pronounced improvement in the facilities for training elementary-school teachers. Teachers at every level are now required to secure their training in institutions of university rank. This requirement will be recognized as a somewhat more rigid standard than any applied in other countries. The incorporation of such progressive features as those enumerated obviously brings many problems to a nation which has traditionally been very conservative in all matters of education. These problems are discussed by the authors at some length. The discussion will be very stimulating to American readers.

[1] Thomas Alexander and Beryl Parker, *The New Education in the German Republic*. New York: John Day Co., 1929. Pp. xxviii+388. $4.00.

The book is well worth careful reading by all students of American education. It should be read particularly by those who think that German education is what it was before the war.

G. T. BUSWELL

Drama in the lower school.—The general field of drama in its relation to the school is constantly attracting the attention of those interested in education. A great deal of the work in this field in recent years has been concerned with children in the upper grades. *Creative Drama in the Lower School*[1] is devoted to the work with kindergarten and primary-school children, the author having been impressed by the fact that there has been little available material on this phase of dramatics in the past.

The thesis upheld in the book is that children should dramatize as they themselves feel they should, with supervision by the teacher but not under the teacher's orders. The drama of the lower school, according to the author, should be the drama which is created by the children. The dramatic play of very small children, the transition from this to drama through the medium of Mother Goose, and the various forms of drama available for the older primary-school children all receive emphasis.

Creative Drama in the Lower School could be used as a practical workbook by primary-school teachers. Many examples are given of the way in which the work has actually been carried out, of what the pupils and the teacher said, and of what the pupils and the teacher did. The work suggested is both practical and possible. Since the book deals only with practices which have actually been worked out, impractical and impossible modes of procedure have been eliminated. Practical suggestions for costumes, scenery, and properties are given. Diagrams and pictures add interest and aid the teacher in carrying out the suggested procedures. The bibliographical material is also of value to those interested in the work in this field. The primary-school teacher will want the book available for ready reference. The principal or supervisor will find it of value in directing the dramatic activities of the lower school.

RUTH COPE

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

BELLINGRATH, GEORGE C. *Qualities Associated with Leadership in the Extra-curricular Activities of the High School.* Teachers College Contributions to Education, No. 399. New York: Teachers College, Columbia University, 1930. Pp. 58. $1.50.

[1] Corinne Brown, *Creative Drama in the Lower School.* New York: D. Appleton & Co., 1929. Pp. xiv+226. $2.00.

BOWDEN, A. O., and CLARKE, IDA CLYDE. *Tomorrow's Americans:* A Practical Study in Student Self-Government. New York: G. P. Putnam's Sons, 1930. Pp. xx+200.

BOWER, WILLIAM CLAYTON. *Character through Creative Experience.* Chicago: University of Chicago Press, 1930. Pp. xiv+276. $2.50.

BROADY, KNUTE O. *School Provision for Individual Differences:* Policies and Data Necessary. Teachers College Contributions to Education, No. 395. New York: Teachers College, Columbia University, 1930. Pp. 102. $1.50.

CAIRNS, LAURA. *A Scientific Basis for Health Instruction in Public Schools.* University of California Publications in Education, Volume 2, No. 5. Berkeley, California: University of California Press, 1929. Pp. 339–434. $1.25.

HWANG, PU. *Errors and Improvement in Rating English Compositions by Means of a Composition Scale.* Teachers College Contributions to Education, No. 417. New York: Teachers College, Columbia University, 1930. Pp. viii+68. $1.50.

LEONARD, JOHN PAUL. *The Use of Practice Exercises in the Teaching of Capitalization and Punctuation.* Teachers College Contributions to Education, No. 372. New York: Teachers College, Columbia University, 1930. Pp. vi+78. $1.50.

REEDER, WARD G. *The Fundamentals of Public School Administration.* New York: Macmillan Co., 1930. Pp. xii+580. $2.25.

SHARP, LLOYD BURGESS. *Education and the Summer Camp: An Experiment.* Teachers College Contributions to Education, No. 390. New York: Teachers College, Columbia University, 1930. Pp. 114. $1.50.

SMITH, MILTON. *The Equipment of the School Theater.* Teachers College Contributions to Education, No. 421. New York: Teachers College, Columbia University, 1930. Pp. vi+78. $1.50.

WARD, WINIFRED. *Creative Dramatics for the Upper Grades and Junior High School.* New York: D. Appleton & Co., 1930. Pp. xiv+304. $2.25.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL TEACHERS AND PUPILS

GORDON, MARGERY, and KING, MARIE B. *A Magic World:* An Anthology of Poetry with Lessons in Poetry. New York: D. Appleton & Co., 1930. Pp. xx+390. $1.20.

KELTY, MARY G. *The Beginnings of the American People and Nation.* Boston: Ginn & Co., 1930. Pp. viii+568. $1.20.

KENLY, JULIE CLOSSON. *Green Magic:* The Story of the World of Plants. New York: D. Appleton & Co., 1930. Pp. xvi+194. $0.92.

LAKE, CHARLES H., WELTON, LOUIS E., and ADELL, JAMES C. *A General Science Workbook.* Newark, New Jersey: Silver, Burdett & Co., 1930. Pp. vi+346. $1.40.

LENNES, N. J. *Lennes Test and Practice Sheets in Arithmetic:* Pad Two, pp. 192; Pad Three, pp. 192. Chicago: Laidlaw Bros., 1930.

LOCKRIDGE, ROSS F. *A. Lincoln.* Yonkers-on-Hudson, New York: World Book Co., 1930. Pp. xiv+320. $1.40.

NIDA, WILLIAM L. *Taming the Animals.* The Story of Man, Book III. Chicago: Laidlaw Bros., 1930. Pp. 240. $0.88.

PACKARD, LEONARD O., and SINNOTT, CHARLES P. *Nations as Neighbors.* New York: Macmillan Co., 1930 (revised). Pp. xiv+672. $1.92.

STRASSLER, MARGARET. *A Health Revue:* A Pageant of Health Activities and Rules Adapted for Junior High Schools. New York: A. S. Barnes & Co., 1930. Pp. viii+76. $1.50.

WILLIAMS, MAUD SMITH. *Growing Straight:* A New System of Physical Education with Mental Control. New York: A. S. Barnes & Co., 1930. Pp. x+138. $2.00.

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ODELL, CHARLES W. *Summer Work in Public Schools.* Bureau of Educational Research Bulletin No. 49. University of Illinois Bulletin, Vol. XXVII, No. 34. Urbana, Illinois: University of Illinois, 1930. Pp. 42. $0.30.

OTIS, A. S., and ORLEANS, J. S. *Manual for Transmuting Standardized Test Scores into Terms of School Marks.* Test Method Helps, Number One. Yonkers-on-Hudson, New York: World Book Co., 1930. Pp. 18. $0.10.

Recent issues of the Office of Education:

Bulletin No. 38, 1929—*Statistics of Universities, Colleges and Professional Schools, 1927–28.*

MISCELLANEOUS PUBLICATIONS

HILL, ADELENE BRUCE, and VAN ALSTYNE, DOROTHY. *Learning Levels of the Children in the Nursery School with Reference to the Eating Situation.* New York: Teachers College, Columbia University, 1930. Pp. vi+42.

INSKEEP, ANNIE DOLMAN. *Child Adjustment in Relation to Growth and Development.* New York: D. Appleton & Co., 1930. Pp. xiv+428. $2.50.